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## PROGETTO ESECUTIVO

### ITINERARIO NAPOLI - BARI RADDOPPIO TRATTA APICE - ORSARA I LOTTO FUNZIONALE APICE - HIRPINIA

VIADOTTI

VI03 - VIADOTTO UFITA ROCCHETTA DA KM 9+637 A KM 10+052

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

APPALTATORE	DIRETTORE DELLA PROGETTAZIONE	PROGETTISTA
Consorzio HIRPINIA AV Il Direttore Tecnico Ing. Vincenzo Moriello 10/06/2020	Il Responsabile integrazione fra le varie prestazioni specialistiche Ing. G. Cassani	 Ing. Paolo Galvanin

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

IF28    01    E    ZZ    CL    VI0303    001    B    -

Rev.	Descrizione	Redatto	Data	Verificato	Data	Approvato	Data	Autorizzato Data
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B	Recepimento Istrutorie	P.Pazzaglia	10/06/2020	L.Zanelotti	10/06/2020	M.Vernaleone	10/06/2020	

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n. Elab.:

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PROGETTAZIONE: <u>Mandatario</u> ROCKSOIL S.P.A.	<u>Mandanti</u> NET ENGINEERING S.P.A. ALPINA S.P.A.					
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B	COMMESSA IF28	LOTTO 01	CODIFICA E ZZ CL	DOCUMENTO VI0303 001	REV. B	FOGLIO 2 di 260

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## 1 INTRODUZIONE

Nell'ambito della redazione del Progetto Esecutivo della tratta Apice - Orsara del Lotto 1 Apice – Irpinia - potenziamento della linea ferroviaria Napoli – Bari, la presente relazione riporta i risultati del dimensionamento e verifiche delle fondazioni – plinto e pozzo di fondazione – della spalla SPA e della spalla SPB del Viadotto VI03 denominato Viadotto Ufita Rocchetta.

Considerate le caratteristiche geometriche, le condizioni geotecniche e l'entità dei carichi agenti, le analisi sono sviluppate in riferimento alla spalla SPA.

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## 2 Documenti di riferimento e normativa

### 2.1 DOCUMENTI DI RIFERIMENTO

- 1) IF2801EZZRGVI0000001 - Relazione Tecnico-Descrittiva delle Opere Civili - Viadotti VI01, VI02, VI03 e VI04;
- 2) IF2801EZZRBVI0003001 - Relazione sui criteri di calcolo delle fondazioni;
- 3) IF2801EZZRBOC0101001 - Relazione Geotecnica Generale;
- 4) IF2801EZZF6OC0101001 - Profilo geologico - Tratta all'aperto Isca Girasole, da pk 0+000 a 2+705;
- 5) IF2801EZZF6OC0101002 - Profilo geologico - Tratta all'aperto valle Ufita, da pk 4+695 a pk 5+090;
- 6) IF2801EZZF6OC0101003 - Profilo geologico - Tratta all'aperto Castel del Fiego, da pk 9+550 a pk 10+090;
- 7) IF2801EZZF6OC0101004 - Profilo geologico - Tratta all'aperto Iscalonga, da pk 16+610 a pk 18+700;
- 8) IF2801EZZRBOC0301001 - Relazione Sismica generale;
- 9) IF2801EZZP9VI0300000- Pianta fondazioni e sezioni (tav. 1 di 3);
- 10) IF2801EZZP9VI0300001- Pianta fondazioni e sezioni (tav. 2 di 3);
- 11) IF2801EZZP9VI0300002- Pianta fondazioni e sezioni (tav. 3 di 3);
- 12) IF2801EZZP9VI0300003- Pianta impalcato e prospetto (tav. 1 di 3);
- 13) IF2801EZZP9VI0300004- Pianta impalcato e prospetto (tav. 2 di 3);
- 14) IF2801EZZP9VI0300005- Pianta impalcato e prospetto (tav. 3 di 3);
- 15) IF2801EZZCLVI0304001- Spalla A e manufatto di transizione: Relazione di calcolo strutture in elevazione;
- 16) IF2801EZZCLVI0305001- Pila P1: relazione di calcolo strutture in elevazione;
- 17) IF2801EZZCLVI0305002- Pila P2: relazione di calcolo strutture in elevazione;
- 18) IF2801EZZCLVI0305003- Pile P3 e P4: Relazione di calcolo strutture in elevazione;
- 19) IF2801EZZCLVI0305004- Pila P5: Relazione di calcolo strutture in elevazione;
- 20) IF2801EZZCLVI0305005- Pila P6: Relazione di calcolo strutture in elevazione;
- 21) IF2801EZZCLVI0304002- Spalla B: Relazione di calcolo strutture in elevazione;
- 22) IF2801EZZCLVI0303001- Relazione di calcolo fondazioni spalla A e spalla B;
- 23) IF2801EZZCLVI0303002- Relazione di calcolo fondazioni pila P1 e P2;
- 24) IF2801EZZCLVI0303004- Relazione di calcolo fondazioni pila P3 e P4;
- 25) IF2801EZZCLVI0303005- Relazione di calcolo fondazioni pila P5 e P6;

### 2.2 NORMATIVA E STRANDARD DI RIFERIMENTO

- 26) Decreto Ministeriale del 14/01/2008: "Approvazione delle Nuove Norma Tecniche per le Costruzioni", G.U. n.29 del 04/02/20018, Supplemento Ordinario n.30;

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- 27) Circolare 01/02/2009, n.617 - Istruzione per l'applicazione delle "Nuove Norme Tecniche per le Costruzioni" di cui al D.M. 14/01/2008;
- 28) DM 06/05/2008 - "Integrazione al DM 14/01/2008 di approvazione delle Nuove Norme Tecniche per le Costruzioni";
- 29) RFI DTC SI MA IFS 001 A - "Manuale di progettazione delle opere civili";
- 30) RFI DTC SI SP IFS 001 A - "Capitolato generale tecnico d'appalto delle opere civili";
- 31) UNI EN 1997-1: Eurocodice 7 - Progettazione Geotecnica - Parte 1: Regole generali;
- 32) UNI EN 1998-5: Eurocodice 8 - Progettazione delle strutture per la resistenza sismica - Parte 5: Fondazioni, strutture di contenimento ed aspetti geotecnici;
- 33) Caltrans. Guidelines on Foundation Loading and Deformation Due to Liquefaction Induced Lateral Spreading. California Department of Transportation, Sacramento, California, 2012;
- 34) JRA (2002) – Specifications for Highway Bridges, Japan Road Association. Part V: Seismic Design.

### 2.3 SOFTWARE

- 35) Lpile, Ensoft Inc, versione 2016, release n.9;
- 36) Group, Ensoft Inc, versione 2016, release n.10;
- 37) GeoStru, RC-SEC, Calcolo di sezioni in Cemento Armato;
- 38) Pozzi J – Pozzi di fondazione o di stabilizzazione – VOL. 4, T. Collotta 2010.

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### 3 Materiali

Il progetto strutturale delle fondazioni prevede l'uso dei materiali con le caratteristiche meccaniche minime riportate nei paragrafi seguenti.

#### 3.1 ACCIAIO

##### 3.1.1 Acciaio per armatura strutture in c.a.

Barre ad aderenza migliorata, saldabile, tipo B450C dotato delle seguenti caratteristiche meccaniche:

- tensione caratteristica di rottura:  $f_{tk} \geq 540 \text{ MPa}$
- tensione caratteristica di snervamento:  $f_{yk} \geq 450 \text{ MPa}$
- allungamento caratteristico:  $\geq 7.5 \%$
- rapporto tensione di rottura/ tensione di snervamento:  $1.15 \leq f_{tk}/f_{yk} < 1.35$

##### 3.1.2 Profilati e piastre metalliche

- - Acciaio tipo: EN 10025-S275 JR
- - Tensione di rottura a trazione:  $f_{tk} \geq 430 \text{ MPa}$
- - Tensione di snervamento:  $f_{yk} \geq 275 \text{ MPa}$

#### 3.2 CALCESTRUZZO

##### 3.2.1 Calcestruzzo magro per getti di livellamento







- Classe di resistenza: C12/15
- classe di esposizione: X0

##### 3.2.2 Calcestruzzo pali, diaframmi di fondazione, cordoli e opere provvisionali

- Classe di resistenza: C25/30
- classe di consistenza: S4
- classe di esposizione: XC2
- dimensione massima dell'inerte:  $D_{max} = 32 \text{ mm}$
- copriferro minimo:  $C_{f,min} \geq 60 \text{ mm}$

##### 3.2.3 Calcestruzzo per fondazioni pile e spalle

- Classe di resistenza: C28/35
- classe di consistenza: S4
- classe di esposizione: XC2
- dimensione massima dell'inerte:  $D_{max} = 25 \text{ mm}$
- copriferro minimo:  $C_{f,min} \geq 40 \text{ mm}$

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## 4 DESCRIZIONE DELLE FONDAZIONI E STRATIGRAFIA DI PROGETTO

### 4.1 DESCRIZIONE DEL SISTEMA FONDAZIONALE

La fondazione della spalla SPA è costituita da: un plinto a sezione rettangolare di dimensioni 16.5 m x 19.7 m<sup>2</sup> e altezza di 2.0+2.0 m; su un pozzo di fondazione con impronta 15.5 m x 18.7 m<sup>2</sup> realizzato mediante n°34 pannelli di diaframmi di spessore 1.20 m e lunghezza 50.0 m. È previsto il riempimento del pozzo per un tratto di 12.0 m da intradosso fondazione.

### 4.2 STRATIGRAFIA DI RIFERIMENTO

In accordo con quanto riportato nella Relazione Geotecnica Generale - ref. 3), la stratigrafia e i parametri geotecnici di riferimento sono riportati nella seguente Tabella 1 unitamente alla portanza limite laterale e di base dei diaframmi.

La quota piano campagna di riferimento, in corrispondenza della pila, è 239.25 m s.l.m. Si considera la profondità della testa del pozzo da p.c. di ca. 5.5 m.

STRATIGRAFIA da p.c.			UNITA' DI RIFERIMENTO	PARAMETRI GEOTECNICI DI RIFERIMENTO			PORTANZA LIMITE DEGLI ELEMENTI FONDAZIONE	
DA	A	Δ H		γ	φ	Cu	qs	qb
[m]	[m]	[m]		[kN/m <sup>3</sup> ]	[°]	[kPa]	[kPa]	[kPa]
0	10.0	10.0	BNA1b	20	-	30	24	-
10.0	26.0	16.0	BNA1b	20	-	60	36	-
26.0	30.0	4.0	BNA2	21	-	450	159.1	4300.0
30.0	...	...	BNA2	21	-	2500	200.0	4300.0

Tabella 1 Stratigrafia e parametri geotecnici di riferimento

La falda è assunta coincidente con il piano campagna, considerate le riprofilature dei versanti per realizzare le opere di sostegno degli stessi.

Il contesto geomorfologico in cui si inserisce il Viadotto Ufita Rocchetta - VI03 è caratterizzato dalla presenza sul versante ovest di una coltri attiva per colamento con spessori dell'ordine di 5÷7m, e sul versante est, pur non essendo stato rilevato a livello morfologico un movimento franoso attivo, di una coltre di oltre 10m di spessore con caratteristiche meccaniche paragonabili al versante ovest. Le indagini condotte in sede di PE hanno confermato la successione stratigrafica prevista in sede di PD, tuttavia i rilievi strumentali eseguiti fino ad oggi non consentono ancora una chiara lettura dei possibili fenomeni evolutivi in atto; le considerazioni successive potranno quindi essere riviste e meglio dettagliate in sede di sviluppo del PED, in funzione dei dati acquisiti nel corso della campagna di monitoraggio del pendio in corso.

In particolare alla Spalla A sono applicati i carichi meglio descritti al successivo § 6.1.



<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>																	
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span>   	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 16.6%;">COMMESSA</td> <td style="width: 16.6%;">LOTTO</td> <td style="width: 16.6%;">CODIFICA</td> <td style="width: 16.6%;">DOCUMENTO</td> <td style="width: 16.6%;">REV.</td> <td style="width: 16.6%;">FOGLIO</td> </tr> <tr> <td style="text-align: center;">IF1N</td> <td style="text-align: center;">01 E ZZ</td> <td style="text-align: center;">RG</td> <td style="text-align: center;">MD0000 001</td> <td style="text-align: center;">B</td> <td style="text-align: center;">9 di 260</td> </tr> </table>						COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF1N	01 E ZZ	RG	MD0000 001	B	9 di 260
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO													
IF1N	01 E ZZ	RG	MD0000 001	B	9 di 260													
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>																		

## 5 CRITERI DI VERIFICA

Per ogni stato limite ultimo deve essere rispettata la condizione:

$$Ed \leq Rd;$$

dove  $Ed$  è il valore di progetto dell'azione o dell'effetto dell'azione e  $Rd$  è il valore di progetto della resistenza.

Le verifiche sono sviluppate secondo l'approccio 2:

combinazione: A1+M1+R3,

in cui è previsto un'unica combinazione di gruppi di coefficienti, da adottare sia nelle verifiche strutturali (STR) sia nelle verifiche geotecniche (GEO).

Per maggiori dettagli sui criteri di calcolo e verifica si rimanda alla relazione ref. 2).

Per le verifiche a fessurazione si ricorda che sono svolte per condizioni ambientali ordinarie e armature poco sensibili (vedasi § 9.3.1 di ref. 2)).

<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span> 	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span> 						
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 10 di 260

## 6 SCARICHI DI FONDAZIONE

Di seguito si esaminano gli scarichi a quota intradosso fondazione della spalla per le combinazioni di carico sismiche (SLV), statiche (SLU) e di esercizio (SLE).

### 6.1 SCARICHI ALLA BASE DEL PLINTO

Nella figura seguente la convenzione dei segni assunta per il calcolo della spalla.

Le convenzioni:

- X: direzione longitudinale impalcato;
- Y: direzione trasversale impalcato;
- Z: direzione verticale (positiva verso l'alto);
- MX: Momento attorno all'asse X;
- MY: Momento attorno all'asse Y;
- MZ: Momento attorno all'asse Z.

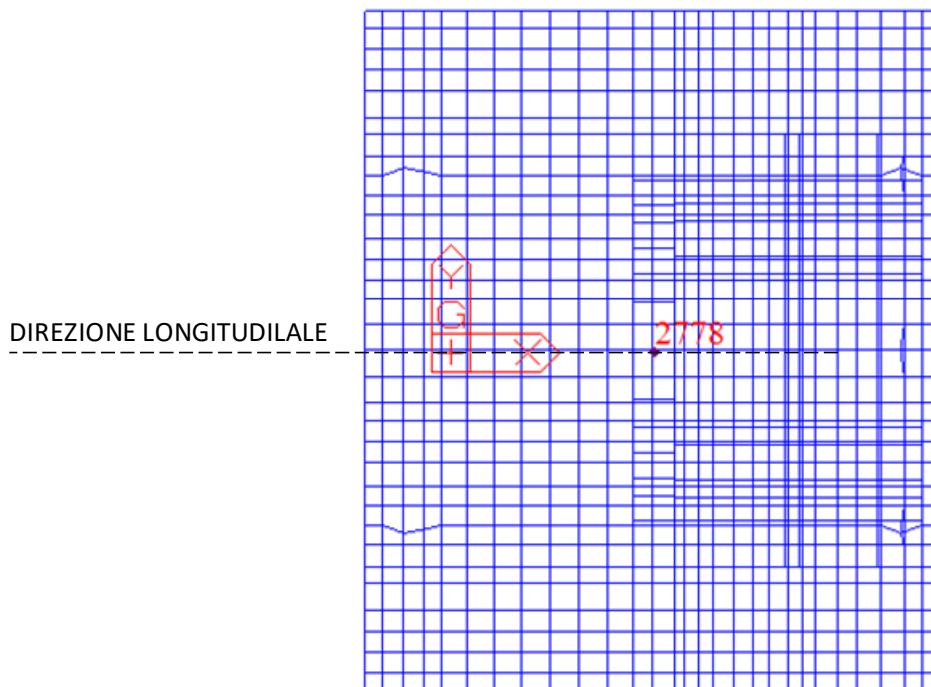



Figura 6-1: Sistema di riferimento proprio della spalla

#### 6.1.1 Combinazioni delle azioni agli stati limite ultimi sismici

Nella seguente Tabella 2 si riportano le combinazioni di carico più gravose agli stati limite ultimi (SLV) in presenza di sisma.

APPALTATORE: Consorzio  Soci  	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>
PROGETTAZIONE: Mandataria  Mandanti  	
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B	COMMESSA    LOTTO    CODIFICA    DOCUMENTO    REV.    FOGLIO IF1N    01 E ZZ    RG    MD0000 001    B    11 di 260

Tali carichi sono stati ottenuti considerando la struttura in elevazione in classe di duttilità B (fattore di struttura  $q=1.5$ ). Per il dimensionamento e le verifiche del sistema fondazione le azioni da considerare sono le resistenze degli elementi strutturali soprastanti, con il limite, in accordo alle NTC 2008 (ref. 26)), che il fattore di amplificazione non superi  $\gamma_{Rd} = 1.1$ .

#### COMB SISMICHE SLV

Node	Load	FX (kN)	FY (kN)	FZ (kN)	MX (kN*m)	MY (kN*m)	MZ (kN*m)
*****	*****	*****	*****	*****	*****	*****	*****
2778	ULS_V_02	<b>11387.8</b>	-112.2	-38319.6	1332.0	61611.2	-18.7
2778	ULS_V_05	<b>-22660.6</b>	-112.2	-38265.0	1332.0	-42120.5	-90.6
2778	ULS_V_09	-3856	<b>19431.2</b>	-38265	-77468	17167	16179
2778	ULS_V_14	-3856	<b>-19655.6</b>	-38265	80132	17167	-16284
2778	ULS_V_22	-9498	-112	<b>-31812.8</b>	1319	-5978	-64
2778	ULS_V_19	1569	-112	<b>-50302.3</b>	1357	44525	-45
2778	ULS_V_16	-3856	-19656	-43795	<b>80143.243</b>	21760	-16284
2778	ULS_V_09	-3856	19431	-38265	<b>-77467.842</b>	17167	16179
2778	ULS_V_04	11388	-112	-43850	1343	<b>66204.4</b>	-19
2778	ULS_V_05	-22661	-112	-38265	1332	<b>-42120.5</b>	-91
2778	ULS_V_11	-3856	19431	-43795	-77457	21760	<b>16178.5</b>
2778	ULS_V_14	-3856	-19656	-38265	80132	17167	<b>-16284.0</b>

Tabella 2: Combinazioni sismiche SLV: azioni agenti a base pila

#### 6.1.2 Combinazioni delle azioni agli stati limite ultimi statici (SLU)

Nella seguente Tabella 3 si riportano le combinazioni agli stati limite ultimi statici (SLU); i carichi sono amplificati con i coefficienti parziali A1.

#### COMB STATICHE ULS

Node	Load	FX (kN)	FY (kN)	FZ (kN)	MX (kN*m)	MY (kN*m)	MZ (kN*m)
*****	*****	*****	*****	*****	*****	*****	*****
2778	ULS_20	<b>-1737.2</b>	-1216.6	-62526.2	11119.353	42802	-464.1
2778	ULS_09	<b>-7424.3</b>	-1216.6	-62421.1	11119.353	12785	-410.4
2778	ULS_53	-6617	<b>-1066.7</b>	-58405	6644.680	21736	-505
2778	ULS_16	-2106	<b>-1650.6</b>	-63772	18070.143	47660	-832
2778	ULS_48	-3770	-1395	<b>-39677.2</b>	13953.027	19014	-705
2778	ULS_02	-7056	-1651	<b>-63946.6</b>	18070.143	23110	-805
2778	ULS_38	-2106	-1651	-49882	<b>18070.143</b>	34401	-832
2778	ULS_05	-7056	-1124	-59472	<b>6212.896</b>	20406	-526
2778	ULS_16	-2106	-1651	-63772	18070.143	<b>47660</b>	-832
2778	ULS_31	-6547	-1217	-47961	11119.353	<b>3799</b>	-410
2778	ULS_17	-2474	-1249	-62043	13912.827	33149	<b>-175.7</b>

APPALTATORE: Consorzio  Soci  	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
PROGETTAZIONE: Mandataria  Mandanti  						
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B	COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 12 di 260

2778 ULS_16	-2106	-1651	-63772	18070.143	47660	<b>-832.1</b>
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Tabella 3: Combinazioni statiche SLU-A1: azioni agenti a base pila

### 6.1.3 Combinazioni delle azioni agli stati limite di esercizio (SLE)

Nella seguente Tabella 4 si riportano le combinazioni di carico caratteristiche impiegate per gli stati limite di esercizio (SLE).

COMB SLE CARATTERISTICHE

Node	Load	FX (kN)	FY (kN)	FZ (kN)	MX (kN*m)	MY (kN*m)	MZ (kN*m)
*****	*****	*****	*****	*****	*****	*****	*****
2778 CH_20		<b>-2181.8</b>	-819.8	-45856.2	7476.064	27131.7	-310.4
2778 CH_09		<b>-5320.6</b>	-819.8	-45390.2	7476.064	10164.7	-273.3
2778 CH_29		-4764	<b>-716.4</b>	-42621	4390.082	16338	-339
2778 CH_16		-2436	<b>-1119.1</b>	-46715	12269.712	30482	-564
2778 CH_24		-3554	-930	<b>-39677.2</b>	9302.018	20008	-470
2778 CH_15		-2436	-1119	<b>-46715.3</b>	12269.712	30482	-564
2778 CH_16		-2436	-1119	-46715	<b>12269.712</b>	30482	-564
2778 CH_05		-5067	-756	-43356	<b>4092.300</b>	15421	-353
2778 CH_16		-2436	-1119	-46715	12269.712	<b>30482.3</b>	-564
2778 CH_09		-5321	-820	-45390	7476.064	<b>10164.7</b>	-273
2778 CH_17		-2690	-842	-45523	9402.598	20475	<b>-111.4</b>
2778 CH_16		-2436	-1119	-46715	12269.712	30482	<b>-564.1</b>

Tabella 4: Combinazioni di esercizio SLE: azioni agenti a base pila

APPALTATORE: Conorzio Soci HIRPINIA AV SALINI IMPREGILO S.P.A. ASTALDI S.P.A.	<b>ITINERARIO NAPOLI – BARI</b>					
PROGETTAZIONE: Mandatara Mandanti ROCKSOIL S.P.A. NET ENGINEERING S.P.A. ALPINA S.P.A.	<b>RADDOPPIO TRATTA APICE – ORSARA I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B	COMMESSA IF28	LOTTO 01	CODIFICA E ZZ CL	DOCUMENTO VI0303 001	REV. B	FOGLIO 13 di 260

## 6.1 SPINTA COLTRI POTENZIALMENTE INSTABILI

Alle azioni derivanti dalle sovrastrutture vengono aggiunte quelle derivanti dalla spinta della coltre potenzialmente instabile ipotizzata di spessore 10.0 m. Tali azioni sono state valutate mediante la teoria di Brinch Hansen come riportato in dettaglio nel documento riportante i criteri di calcolo [Ref. 2)]. Di seguito si riportano i valori della spinta nelle combinazioni di progetto considerate.

Nella Tabella 5 le assunzioni di base:

SPINTA COLTRI INSTABILI SU POZZI, Metodo di Brinch-Hansen

Larghezza pozzo	B	18.7	m
inclinazione pendio	$\beta$	11	°
profondità falda da p.c.	$H_w$	0	m
peso di volume terreno	$\gamma$	20	kN/m <sup>3</sup>
peso acqua	$\gamma_w$	10.00	kN/m <sup>3</sup>
angolo resistenza taglio	$\varphi$	22	°
coesione	c	0	kPa
sovraccarico	$\Delta q'$	0	kPa
progressione stratigrafica	$\Delta h$	0.5	m

Tabella 5: Caratteristiche geometriche del pendio

### 6.1.1 Spinta colti instabili agli Stati Limite Ultimi Sismici

Profondità da quota imposta			Spinta (pendio orizzontale)			fattore inclinazione terreno	fattore incremento sisma	fattore normativa	Spinta fattorizzata (pendio inclinato)		
z1	z2	zm	$e^D$ [kPa]	Sp (kN)	Mp (kN)				$e^D$ [kPa]	Sp (kN)	Mp (kN)
0	0.5	0.25	0	0	0	1.2	1.28	1	0	0	0
0.5	1	0.75	13	62	10	1.2	1.28	1	20	96	16
1	1.5	1.25	27	250	83	1.2	1.28	1	41	384	128
1.5	2	1.75	41	564	282	1.2	1.28	1	62	867	433
2	2.5	2.25	54	1008	672	1.2	1.28	1	84	1548	1032
2.5	3	2.75	68	1582	1319	1.2	1.28	1	105	2430	2025
3	3.5	3.25	83	2289	2289	1.2	1.28	1	127	3516	3516
3.5	4	3.75	97	3130	3652	1.2	1.28	1	149	4808	5609
4	4.5	4.25	112	4107	5476	1.2	1.28	1	172	6309	8412
4.5	5	4.75	127	5222	7833	1.2	1.28	1	194	8021	12031
5	5.5	5.25	142	6476	10793	1.2	1.28	1	218	9947	16578
5.5	6	5.75	157	7871	14430	1.2	1.28	1	241	12089	22164
6	6.5	6.25	172	9408	18816	1.2	1.28	1	264	14451	28902
6.5	7	6.75	188	11090	24028	1.2	1.28	1	288	17034	36907
7	7.5	7.25	203	12917	30141	1.2	1.28	1	312	19841	46296
7.5	8	7.75	219	14892	37231	1.2	1.28	1	337	22875	57187
8	8.5	8.25	235	17016	45376	1.2	1.28	1	361	26137	69698
8.5	9	8.75	251	19290	54656	1.2	1.28	1	386	29630	83952
9	9.5	9.25	268	21717	65150	1.2	1.28	1	411	33357	100070
9.5	10	9.75	284	24296	76938	1.2	1.28	1	436	37319	118177
10	10.5	10.25	301	27031	90103	1.2	1.28	1	462	41519	138398

Tabella 6: Azioni dovute alla spinta della coltre - SLV

<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span>   			<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>							
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span>   			COMMESSA		LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>			IF1N		01 E ZZ	RG	MD0000 001	B	14 di 260	

### 6.1.2 Spinta coltri instabili agli Stati Limite Ultimi Statici

Profondità da quota imposta			Spinta (pendio orizzontale)			fattore inclinazione terreno	fattore incremento sisma	fattore normativa	Spinta fattorizzata (pendio inclinato)		
z1	z2	zm	e <sup>D</sup> [kPa]	Sp (kN)	Mp (kN)				e <sup>D</sup> [kPa]	Sp (kN)	Mp (kN)
0	0.5	0.25	0	0	0	1.2	1	1.3	0	0	0
0.5	1	0.75	13	62	10	1.2	1	1.3	21	97	16
1	1.5	1.25	27	250	83	1.2	1	1.3	42	390	130
1.5	2	1.75	41	564	282	1.2	1	1.3	63	880	440
2	2.5	2.25	54	1008	672	1.2	1	1.3	85	1572	1048
2.5	3	2.75	68	1582	1319	1.2	1	1.3	107	2468	2057
3	3.5	3.25	83	2289	2289	1.2	1	1.3	129	3571	3571
3.5	4	3.75	97	3130	3652	1.2	1	1.3	152	4883	5697
4	4.5	4.25	112	4107	5476	1.2	1	1.3	174	6407	8543
4.5	5	4.75	127	5222	7833	1.2	1	1.3	198	8146	12219
5	5.5	5.25	142	6476	10793	1.2	1	1.3	221	10102	16837
5.5	6	5.75	157	7871	14430	1.2	1	1.3	245	12278	22510
6	6.5	6.25	172	9408	18816	1.2	1	1.3	268	14677	29354
6.5	7	6.75	188	11090	24028	1.2	1	1.3	293	17300	37484
7	7.5	7.25	203	12917	30141	1.2	1	1.3	317	20151	47020
7.5	8	7.75	219	14892	37231	1.2	1	1.3	342	23232	58080
8	8.5	8.25	235	17016	45376	1.2	1	1.3	367	26545	70787
8.5	9	8.75	251	19290	54656	1.2	1	1.3	392	30093	85263
9	9.5	9.25	268	21717	65150	1.2	1	1.3	418	33878	101634
9.5	10	9.75	284	24296	76938	1.2	1	1.3	443	37902	120024
10	10.5	10.25	301	27031	90103	1.2	1	1.3	469	42168	140560

Tabella 7: Azioni dovute alla spinta della coltre - SLU

### 6.1.3 Spinta coltri instabili agli Stati Limite di Esercizio

Profondità da quota imposta			Spinta (pendio orizzontale)			fattore inclinazione terreno	fattore incremento sisma	fattore normativa	Spinta fattorizzata (pendio inclinato)		
z1	z2	zm	e <sup>D</sup> [kPa]	Sp (kN)	Mp (kN)				e <sup>D</sup> [kPa]	Sp (kN)	Mp (kN)
0	0.5	0.25	0	0	0	1.2	1	1	0	0	0
0.5	1	0.75	13	62	10	1.2	1	1	16	75	12
1	1.5	1.25	27	250	83	1.2	1	1	32	300	100
1.5	2	1.75	41	564	282	1.2	1	1	49	677	339
2	2.5	2.25	54	1008	672	1.2	1	1	65	1210	806
2.5	3	2.75	68	1582	1319	1.2	1	1	82	1899	1582
3	3.5	3.25	83	2289	2289	1.2	1	1	99	2747	2747
3.5	4	3.75	97	3130	3652	1.2	1	1	117	3756	4382
4	4.5	4.25	112	4107	5476	1.2	1	1	134	4929	6572
4.5	5	4.75	127	5222	7833	1.2	1	1	152	6266	9399
5	5.5	5.25	142	6476	10793	1.2	1	1	170	7771	12952
5.5	6	5.75	157	7871	14430	1.2	1	1	188	9445	17316
6	6.5	6.25	172	9408	18816	1.2	1	1	207	11290	22580
6.5	7	6.75	188	11090	24028	1.2	1	1	225	13308	28834
7	7.5	7.25	203	12917	30141	1.2	1	1	244	15501	36169
7.5	8	7.75	219	14892	37231	1.2	1	1	263	17871	44677
8	8.5	8.25	235	17016	45376	1.2	1	1	282	20419	54452
8.5	9	8.75	251	19290	54656	1.2	1	1	302	23148	65587
9	9.5	9.25	268	21717	65150	1.2	1	1	321	26060	78180
9.5	10	9.75	284	24296	76938	1.2	1	1	341	29156	92326
10	10.5	10.25	301	27031	90103	1.2	1	1	361	32437	108123

Tabella 8: Azioni dovute alla spinta della coltre - SLE

<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span> 	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span> 	
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	COMMESSA <span style="margin-left: 20px;">LOTTO</span> <span style="margin-left: 20px;">CODIFICA</span> <span style="margin-left: 20px;">DOCUMENTO</span> <span style="margin-left: 20px;">REV.</span> <span style="margin-left: 20px;">FOGLIO</span> IF1N <span style="margin-left: 20px;">01 E ZZ</span> <span style="margin-left: 20px;">RG</span> <span style="margin-left: 20px;">MD0000 001</span> <span style="margin-left: 20px;">B</span> <span style="margin-left: 20px;">15 di 260</span>

### 6.1.4 Trasporto dell'azione delle coltri instabili a testa pozzo

Le Azioni calcolate come sopra sono quindi da riportare alla quota di testa pozzo, riducendo il momento del momento di trasporto.

Le azioni così calcolate saranno quindi sommate a quelle derivanti dalla sovrastruttura considerando che la risultante è coincidente come direzione e verso all'asse longitudinale dell'opera.

Di seguito il riassunto delle azioni di Coltri di progetto - Tabella 9.

Spinta Coltri	SLV	SLU	SLE
Direzione	long	long	long
Sp_coltri (kN)	41519	42168	32437
Mp_coltri (kNm)	138398	140560	108123
trasporto	10	10	10
Mp_f Z=0 (kNm)	-276792	-281120	-216247

Tabella 9: Coltri di progetto

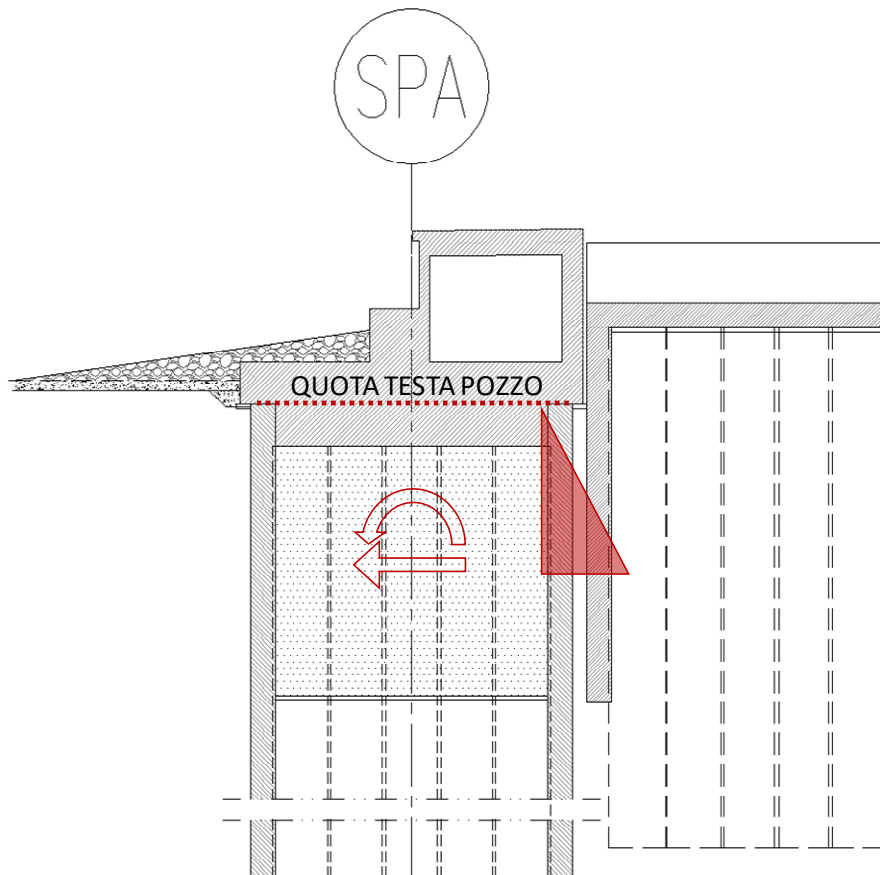


Figura 6-2: Schema coltri

<b>APPALTATORE:</b> Consorzio <b>Soci</b> 	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b> 						
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 16 di 260

## 6.1 SCARICHI A INTRADOSSO PLINTO - GROUP

### 6.1.1 Combinazioni delle azioni agli stati limite ultimi sismici (SLV)

Nella tabella seguente si riportano le combinazioni di carico agli stati limite ultimi (SLV) in presenza dell'azione sismica, ottenute:

- amplificando le azioni di taglio e i momenti a base pila del coefficiente  $\gamma_{Rd} = 1.1$ ;
- aggiungendo il contributo destabilizzante della coltri;
- sistema di riferimento codice calcolo Group (Figura 6-3).

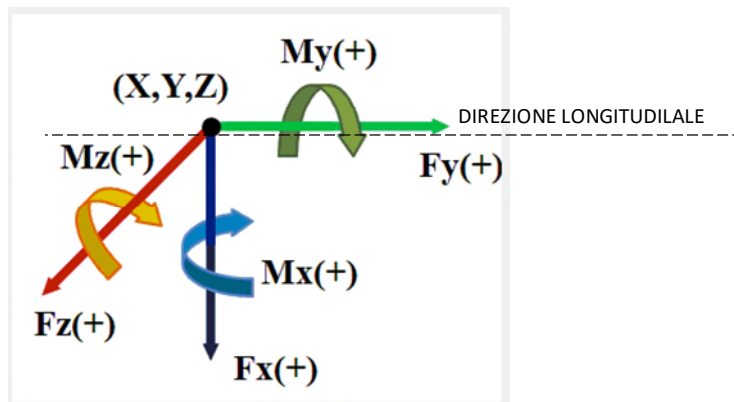


Figura 6-3: Convenzioni di segno Group

NODE	LOAD	VERT	LONG	LONG	TRASV	TRASV	TORC
		FX	FY	MZ	FZ	MY	MX
2778	ULS_V_02	38319.6	-28992.4	-344564.3	123.4	1465.2	20.5
2778	ULS_V_05	38265.0	-66445.6	-230459.5	123.4	1465.2	99.6
2778	ULS_V_09	38265.0	-45761.0	-295675.7	-21374.3	-85214.6	-17796.4
2778	ULS_V_14	38265.0	-45761.0	-295675.7	21621.2	88145.1	17912.4
2778	ULS_V_22	31812.8	-51966.4	-270216.2	123.4	1450.7	70.5
2778	ULS_V_19	50302.3	-39793.1	-325769.8	123.4	1492.3	49.6
2778	ULS_V_16	43795.5	-45761.0	-300728.2	21621.2	88157.6	17912.4
2778	ULS_V_09	38265.0	-45761.0	-295675.7	-21374.3	-85214.6	-17796.4
2778	ULS_V_04	43850.1	-28992.4	-349616.8	123.4	1477.7	20.5
2778	ULS_V_05	38265.0	-66445.6	-230459.5	123.4	1465.2	99.6
2778	ULS_V_11	43795.5	-45761.0	-300728.2	-21374.3	-85202.2	-17796.4
2778	ULS_V_14	38265.0	-45761.0	-295675.7	21621.2	88145.1	17912.4

Tabella 10: Combinazioni sismiche SLV: azioni agenti ad intradosso plinto - Group

### 6.1.2 Combinazioni delle azioni agli stati limite ultimi statici (SLU)

Nella tabella seguente si riportano gli scarichi per gli stati limite ultimi statici (SLU), ottenuti aggiungendo il contributo destabilizzante della coltri, e considerando sistema di riferimento codice calcolo Group (Figura 6-3).



<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 17 di 260

NODE	LOAD	VERT	LONG	LONG	TRASV	TRASV	TORC
		FX	FY	MZ	FZ	MY	MX
2778	ULS_20	62526.2	-43905.2	-323921.6	1216.6	11119.4	464.1
2778	ULS_09	62421.1	-49592.3	-293904.8	1216.6	11119.4	410.4
2778	ULS_53	58405.2	-48785.2	-302856.5	1066.7	6644.7	505.2
2778	ULS_16	63771.8	-44273.5	-328779.9	1650.6	18070.1	832.1
2778	ULS_48	39677.2	-45937.8	-300134.4	1395.0	13953.0	704.6
2778	ULS_02	63946.6	-49223.9	-304230.3	1650.6	18070.1	805.2
2778	ULS_38	49882.4	-44273.5	-315520.8	1650.6	18070.1	832.1
2778	ULS_05	59472.2	-49223.9	-301526.2	1124.2	6212.9	525.8
2778	ULS_16	63771.8	-44273.5	-328779.9	1650.6	18070.1	832.1
2778	ULS_31	47961.1	-48715.5	-284918.5	1216.6	11119.4	410.4
2778	ULS_17	62043.3	-44641.8	-314269.1	1248.8	13912.8	175.7
2778	ULS_16	63771.8	-44273.5	-328779.9	1650.6	18070.1	832.1

Tabella 11: Combinazioni di statiche SLU-A1: azioni agenti ad intradosso plinto - Group

### 6.1.3 Combinazioni delle azioni agli stati limite di esercizio (SLE)

Nella tabella seguente si riportano le combinazioni di carico caratteristiche impiegate per gli stati limite di esercizio ottenute aggiungendo il contributo destabilizzante della coltri e considerando sistema di riferimento codice calcolo Group (Figura 6-3).

NODE	LOAD	VERT	LONG	LONG	TRASV	TRASV	TORC
		FX	FY	MZ	FZ	MY	MX
2778	CH_20	45856.2	-34618.8	-243378.6	819.8	7476.1	310.4
2778	CH_09	45390.2	-37757.6	-226411.6	819.8	7476.1	273.3
2778	CH_29	42620.6	-37201.1	-232585.2	716.4	4390.1	338.7
2778	CH_16	46715.3	-34872.8	-246729.2	1119.1	12269.7	564.1
2778	CH_24	39677.2	-35990.8	-236254.9	930.0	9302.0	469.7
2778	CH_15	46715.3	-34872.8	-246729.2	1119.1	12269.7	564.1
2778	CH_16	46715.3	-34872.8	-246729.2	1119.1	12269.7	564.1
2778	CH_05	43356.5	-37503.6	-231667.8	756.1	4092.3	352.9
2778	CH_16	46715.3	-34872.8	-246729.2	1119.1	12269.7	564.1
2778	CH_09	45390.2	-37757.6	-226411.6	819.8	7476.1	273.3
2778	CH_17	45523.2	-35126.8	-236721.7	842.0	9402.6	111.4
2778	CH_16	46715.3	-34872.8	-246729.2	1119.1	12269.7	564.1

Tabella 12: Combinazioni di esercizio SLE: azioni agenti ad intradosso plinto - Group

<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>																	
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span>   	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 16.6%;">COMMESSA</td> <td style="width: 16.6%;">LOTTO</td> <td style="width: 16.6%;">CODIFICA</td> <td style="width: 16.6%;">DOCUMENTO</td> <td style="width: 16.6%;">REV.</td> <td style="width: 16.6%;">FOGLIO</td> </tr> <tr> <td>IF1N</td> <td>01 E ZZ</td> <td>RG</td> <td>MD0000 001</td> <td>B</td> <td>18 di 260</td> </tr> </table>						COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF1N	01 E ZZ	RG	MD0000 001	B	18 di 260
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO													
IF1N	01 E ZZ	RG	MD0000 001	B	18 di 260													
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>																		

## 7 ANALISI DELL'INTERAZIONE FONDAZIONE-TERRENO

I diaframmi costituenti il pozzo sono stati schematizzati come pali isolati di sezione rettangolare collegati in testa dal plinto e l'analisi di interazione terreno-fondazione è stata sviluppata con il software GROUP della Ensoft.

Il comportamento dei pali in gruppo quale elemento riduttivo delle resistenze non è stato considerato in quanto i singoli elementi collaborano grazie al contatto reciproco. È evidente che nel modello GROUP si trascura, a favore di sicurezza, la collaborazione strutturale fra i vari pannelli di diaframma che si esplica in corrispondenza dei giunti.

### 7.1 DESCRIZIONE DEL MODELLO DI CALCOLO GROUP

Il modello di calcolo è stato costruito nel seguente modo:

<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span> 	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>																	
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span> 	<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 16.6%;">COMMESSA</td> <td style="width: 16.6%;">LOTTO</td> <td style="width: 16.6%;">CODIFICA</td> <td style="width: 16.6%;">DOCUMENTO</td> <td style="width: 16.6%;">REV.</td> <td style="width: 16.6%;">FOGLIO</td> </tr> <tr> <td>IF1N</td> <td>01 E ZZ</td> <td>RG</td> <td>MD0000 001</td> <td>B</td> <td>19 di 260</td> </tr> </table>						COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF1N	01 E ZZ	RG	MD0000 001	B	19 di 260
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO													
IF1N	01 E ZZ	RG	MD0000 001	B	19 di 260													
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>																		

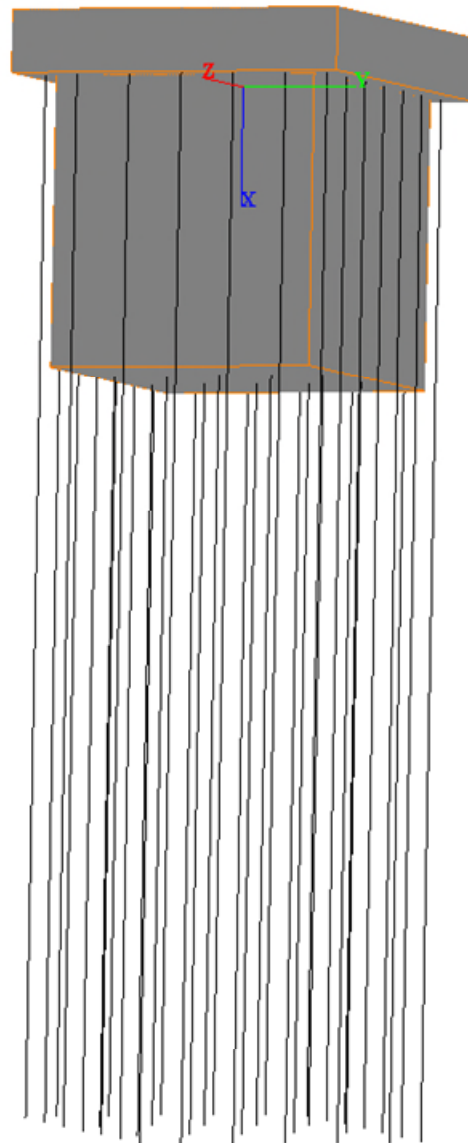
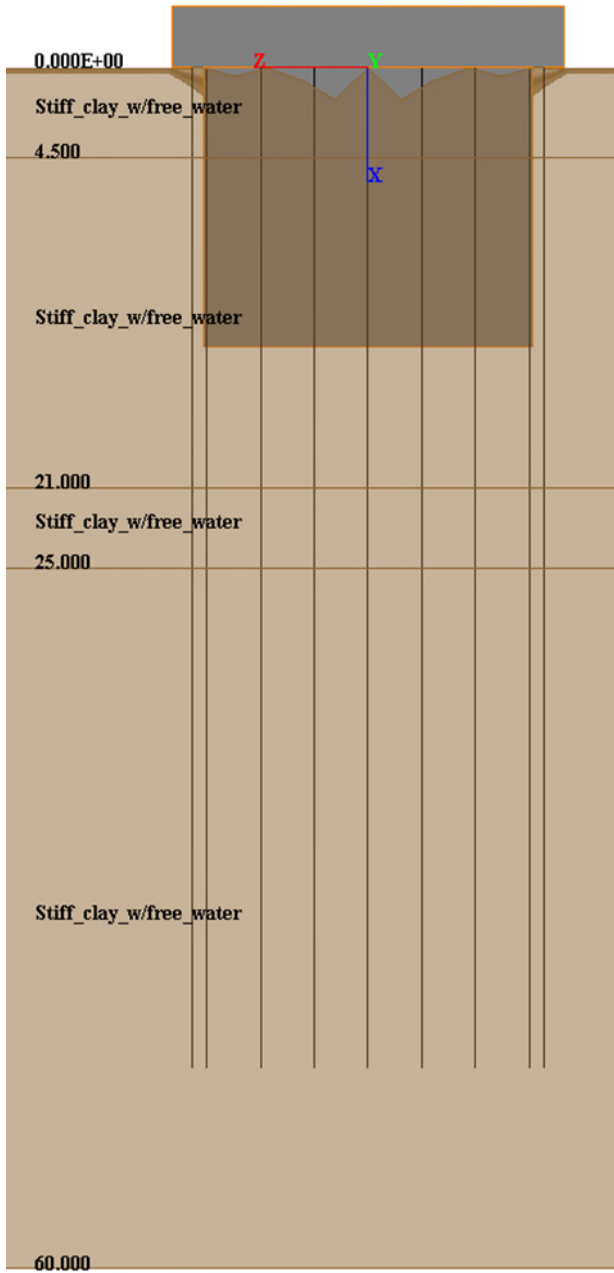


Figura 7-1: Vista frontale del modello GROUPv2016

<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span> 		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span> 							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 20 di 260

## DIAFRAMMI PARALLELI ALLA DIREZIONE LONGITUDINALE

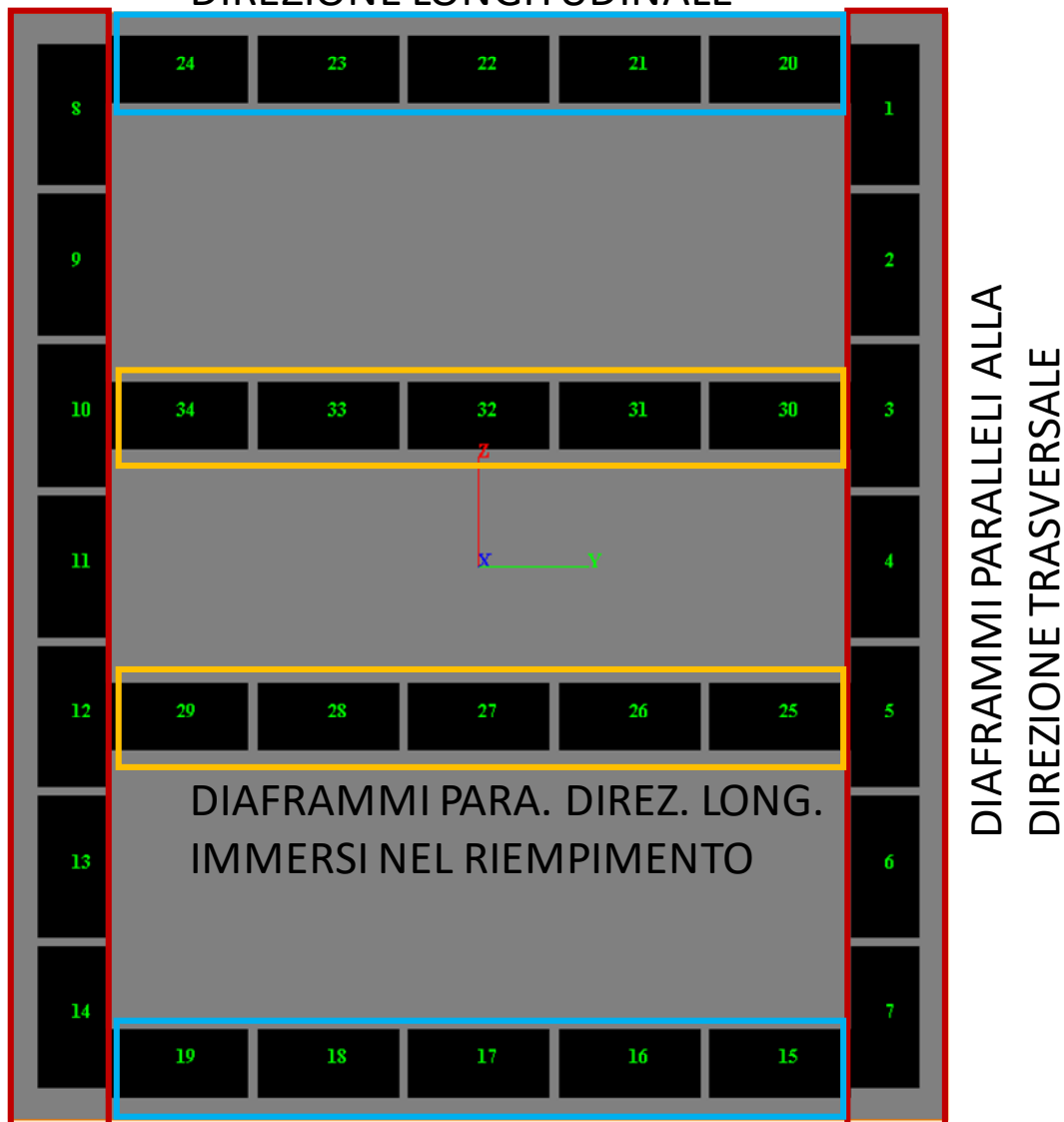


Figura 7-2: Vista in pianta del modello GROUPv2016

Nel modello di calcolo si considera che i diaframmi interni al pozzo sono immersi nel riempimento in calcestruzzo per ulteriori 12 m; il vincolo di incastro è considerato all'intradosso riempimento. I diaframmi esterni, perimetrali al pozzo, sono vincolati alla porzione di plinto più esterna di altezza 3 m (Figura 7-2).

In accordo al § 4.2 nelle seguenti Figura 7-3 ÷ Figura 7-7 si riporta il modello stratigrafico di calcolo e i parametri geotecnici assegnati ai singoli strati. I parametri di rigidità del terreno sono stati assunti in accordo ai criteri illustrati nella relazione al ref. 2), § 8.1.1 per le "stiff clays with free water".

<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span> 	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span> 	
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	COMMESSA <span style="margin-left: 20px;">LOTTO</span> <span style="margin-left: 20px;">CODIFICA</span> <span style="margin-left: 20px;">DOCUMENTO</span> <span style="margin-left: 20px;">REV.</span> <span style="margin-left: 20px;">FOGLIO</span> IF1N <span style="margin-left: 20px;">01 E ZZ</span> <span style="margin-left: 20px;">RG</span> <span style="margin-left: 20px;">MD0000 001</span> <span style="margin-left: 20px;">B</span> <span style="margin-left: 20px;">21 di 260</span>

Layer	Soil Type	Depth for Top of Soil Layer (m)	Depth for Bottom of Soil Layer (m)	Properties of Layer
1	Stiff Clay with Free Water (Reese)	0	4.5	1: Stiff Clay with Free Water
2	Stiff Clay with Free Water (Reese)	4.5	21	2: Stiff Clay with Free Water
3	Stiff Clay with Free Water (Reese)	21	25	3: Stiff Clay with Free Water
4	Stiff Clay with Free Water (Reese)	25	60	4: Stiff Clay with Free Water

Buttons: Add Row, Insert Row, Delete Row

Figura 7-3: Modello stratigrafico GROUP V2016

1=Top, 2=Bottom	Effective Unit Weight (kN/m <sup>3</sup> )	Undrained Cohesion, c (kN/m <sup>2</sup> )	p-y Modulus, k (kN/m <sup>3</sup> )	Strain Factor E50	Ultimate Unit Side Friction (kN/m <sup>2</sup> )	Ultimate Unit Tip Resistance (kN/m <sup>2</sup> )
1	10	30	135000	0.007	24	0
2	10	30	135000	0.007	24	0

A linear interpolation with depth will be used to compute values between the top and bottom of the layer. (k=55000 per analisi SLE)

p-y Modulus, k, and Strain Factor E50:  
 - Always check recommended value in Geotechnical Investigation Reports.  
 - Program will help to estimate values for p-y Modulus, k, and Strain Factor E50 if zero input values are entered.

Ultimate Unit Side Friction and Ultimate Unit Tip Resistance:  
 - The program uses Ultimate Unit Side Friction to generate t-z curves.  
 - The program uses Ultimate Unit Tip Resistance to generate q-w curves.  
 - Always check recommended values in Geotechnical Investigation Reports.  
 - Program will help to estimate values for Ultimate Unit Side Friction and Ultimate Unit Tip Resistance if zero input values are entered.

Figura 7-4: Layer no.1 (BNA1b)

1=Top, 2=Bottom	Effective Unit Weight (kN/m <sup>3</sup> )	Undrained Cohesion, c (kN/m <sup>2</sup> )	p-y Modulus, k (kN/m <sup>3</sup> )	Strain Factor E50	Ultimate Unit Side Friction (kN/m <sup>2</sup> )	Ultimate Unit Tip Resistance (kN/m <sup>2</sup> )
1	10	60	135000	0.007	36	0
2	10	60	135000	0.007	36	0

A linear interpolation with depth will be used to compute values between the top and bottom of the layer. (k=55000 per analisi SLE)

p-y Modulus, k, and Strain Factor E50:  
 - Always check recommended value in Geotechnical Investigation Reports.  
 - Program will help to estimate values for p-y Modulus, k, and Strain Factor E50 if zero input values are entered.

Ultimate Unit Side Friction and Ultimate Unit Tip Resistance:  
 - The program uses Ultimate Unit Side Friction to generate t-z curves.  
 - The program uses Ultimate Unit Tip Resistance to generate q-w curves.  
 - Always check recommended values in Geotechnical Investigation Reports.  
 - Program will help to estimate values for Ultimate Unit Side Friction and Ultimate Unit Tip Resistance if zero input values are entered.

Figura 7-5: Layer no.2 (BNA1b)

<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span> 	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span> 	
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	COMMESSA <span style="margin-left: 20px;">LOTTO</span> <span style="margin-left: 20px;">CODIFICA</span> <span style="margin-left: 20px;">DOCUMENTO</span> <span style="margin-left: 20px;">REV.</span> <span style="margin-left: 20px;">FOGLIO</span> IF1N <span style="margin-left: 20px;">01 E ZZ</span> <span style="margin-left: 20px;">RG</span> <span style="margin-left: 20px;">MD0000 001</span> <span style="margin-left: 20px;">B</span> <span style="margin-left: 20px;">22 di 260</span>

1=Top, 2=Bottom	Effective Unit Weight (kN/m <sup>3</sup> )	Undrained Cohesion, c (kN/m <sup>2</sup> )	p-y Modulus, k (kN/m <sup>3</sup> )	Strain Factor E50	Ultimate Unit Side Friction (kN/m <sup>2</sup> )	Ultimate Unit Tip Resistance (kN/m <sup>2</sup> )
1	11	450	540000	0.004	159.1	4300
2	11	450	540000	0.004	159.1	4300

A linear interpolation with depth will be used to compute values between the top and bottom of the layer. (k=220000 per analisi SLE)

p-y Modulus, k, and Strain Factor E50:  
 - Always check recommended value in Geotechnical Investigation Reports.  
 - Program will help to estimate values for p-y Modulus, k, and Strain Factor E50 if zero input values are entered.

Ultimate Unit Side Friction and Ultimate Unit Tip Resistance:  
 - The program uses Ultimate Unit Side Friction to generate t-z curves.  
 - The program uses Ultimate Unit Tip Resistance to generate q-w curves.  
 - Always check recommended values in Geotechnical Investigation Reports.  
 - Program will help to estimate values for Ultimate Unit Side Friction and Ultimate Unit Tip Resistance if zero input values are entered.

Figura 7-6: Layer no.3 (BNA2)

1=Top, 2=Bottom	Effective Unit Weight (kN/m <sup>3</sup> )	Undrained Cohesion, c (kN/m <sup>2</sup> )	p-y Modulus, k (kN/m <sup>3</sup> )	Strain Factor E50	Ultimate Unit Side Friction (kN/m <sup>2</sup> )	Ultimate Unit Tip Resistance (kN/m <sup>2</sup> )
1	11	2500	540000	0.004	200	4300
2	11	2500	540000	0.004	200	4300

A linear interpolation with depth will be used to compute values between the top and bottom of the layer. (k=220000 per analisi SLE)

p-y Modulus, k, and Strain Factor E50:  
 - Always check recommended value in Geotechnical Investigation Reports.  
 - Program will help to estimate values for p-y Modulus, k, and Strain Factor E50 if zero input values are entered.

Ultimate Unit Side Friction and Ultimate Unit Tip Resistance:  
 - The program uses Ultimate Unit Side Friction to generate t-z curves.  
 - The program uses Ultimate Unit Tip Resistance to generate q-w curves.  
 - Always check recommended values in Geotechnical Investigation Reports.  
 - Program will help to estimate values for Ultimate Unit Side Friction and Ultimate Unit Tip Resistance if zero input values are entered.

Figura 7-7: Layer no.4 (BNA2)

## 7.2 SINTESI DEI RISULTATI AGLI STATI LIMITE DI ESERCIZIO (SLE)

Si riassumono nel seguito le sollecitazioni agenti in testa ai diaframmi distinguendo fra i pannelli paralleli alla direzione longitudinale (ovvero direzione 1(y)) e quelli paralleli alla direzione trasversale al viadotto (ovvero direzione 2(z)), secondo lo schema di Figura 7-2.

Si ricorda che per le analisi allo SLE (vedasi Ref. 2)) sono stati utilizzati per le curve p-y i coefficienti di rigidezza del terreno suggeriti dal programma per carichi ciclici; facendo riferimento alle Figura 7-4 e Figura 7-7 sono stati utilizzati i valori evidenziati di lato.

Nelle seguenti Tabella 13 e Tabella 14 sono riportate le sollecitazioni corrispondenti alle condizioni di carico - massimo e minimo - di sforzo assiale, dei tagli e dei momenti nelle dure direzioni. Per ciascun caso è indicato il riferimento alla combinazione di carico di progetto e la denominazione del diaframma di appartenenza.

APPALTATORE: Consorzio  Soci  	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>
PROGETTAZIONE: Mandataria  Mandanti  	
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B	COMMESSA    LOTTO    CODIFICA    DOCUMENTO    REV.    FOGLIO IF1N          01 E ZZ    RG          MD0000 001    B          23 di 260

SLE - diaframmi paralleli all'asse longitudinale							
LOAD CASE :	PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****	*****
2_SLE	34	<b>2571.0</b>	-1528.1	9.5	0.2	-21.9	-5835.5
5_SLE	15	<b>411.2</b>	-1179.9	21.6	0.4	-66.6	-5102.8
1_SLE	18	1372	<b>-1128.7</b>	18	0	-55	-4873
2_SLE	30	758	<b>-1528.5</b>	11	0	-26	-5836
4_SLE	15	668	-1135	<b>26.4</b>	0	-81	-4904
10_SLE	34	2358	-1442	<b>8.3</b>	0	-17	-5523
4_SLE	15	668	-1135	26	<b>0.482</b>	-81	-4904
10_SLE	25	914	-1442	9	<b>0.064</b>	-18	-5521
10_SLE	34	2358	-1442	8	0	<b>-16.8</b>	-5523
4_SLE	15	668	-1135	26	0	<b>-80.5</b>	-4904
1_SLE	15	685	-1129	19	0	-58	<b>-4872.7</b>
2_SLE	30	758	-1529	11	0	-26	<b>-5835.6</b>

Tabella 13: Sollecitazioni allo SLE massime e minime per i diaframmi paralleli all'asse longitudinale

SLE - diaframmi paralleli all'asse trasversale							
LOAD CASE :	PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****	*****
2_SLE	8	<b>2196.0</b>	-714.8	37.1	0.242	-146	-2354.7
5_SLE	7	<b>227.3</b>	-673.8	46.2	0.407	-180	-2207.4
1_SLE	14	1767	<b>-642.5</b>	37	0.265	-144	-2099
2_SLE	1	378	<b>-715.4</b>	40	0.242	-157	-2355
4_SLE	7	519	-646	<b>56.1</b>	0.482	-216	-2112
3_SLE	8	2031	-701	<b>31.1</b>	0.297	-124	-2307
4_SLE	1	745	-648	56	<b>0.482</b>	-216	-2119
10_SLE	1	616	-657	41	<b>0.097</b>	-157	-2147
3_SLE	8	2031	-701	31	0.297	<b>-124</b>	-2307
4_SLE	7	519	-646	56	0.482	<b>-216</b>	-2112
1_SLE	7	533	-643	40	0.265	-156	<b>-2099.0</b>
2_SLE	1	378	-715	40	0.242	-157	<b>-2354.7</b>

Tabella 14: Sollecitazioni allo SLE massime e minime per i diaframmi paralleli all'asse trasversale

Nelle seguenti figure sono diagrammati l'andamento del momento e del taglio con la profondità per le combinazioni di carico in cui le sollecitazioni risultano massime.

<b>APPALTATORE:</b> Consorzio <b>HirpiniaAV</b> Soci <b>salini impregilo</b> <b>ASTALDI</b>		<b>ITINERARIO NAPOLI – BARI</b>					
<b>PROGETTAZIONE:</b> Mandataria <b>ROKSOJL</b> Mandanti <b>NETENGINEERING</b> <b>Alpina</b>		<b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 24 di 260

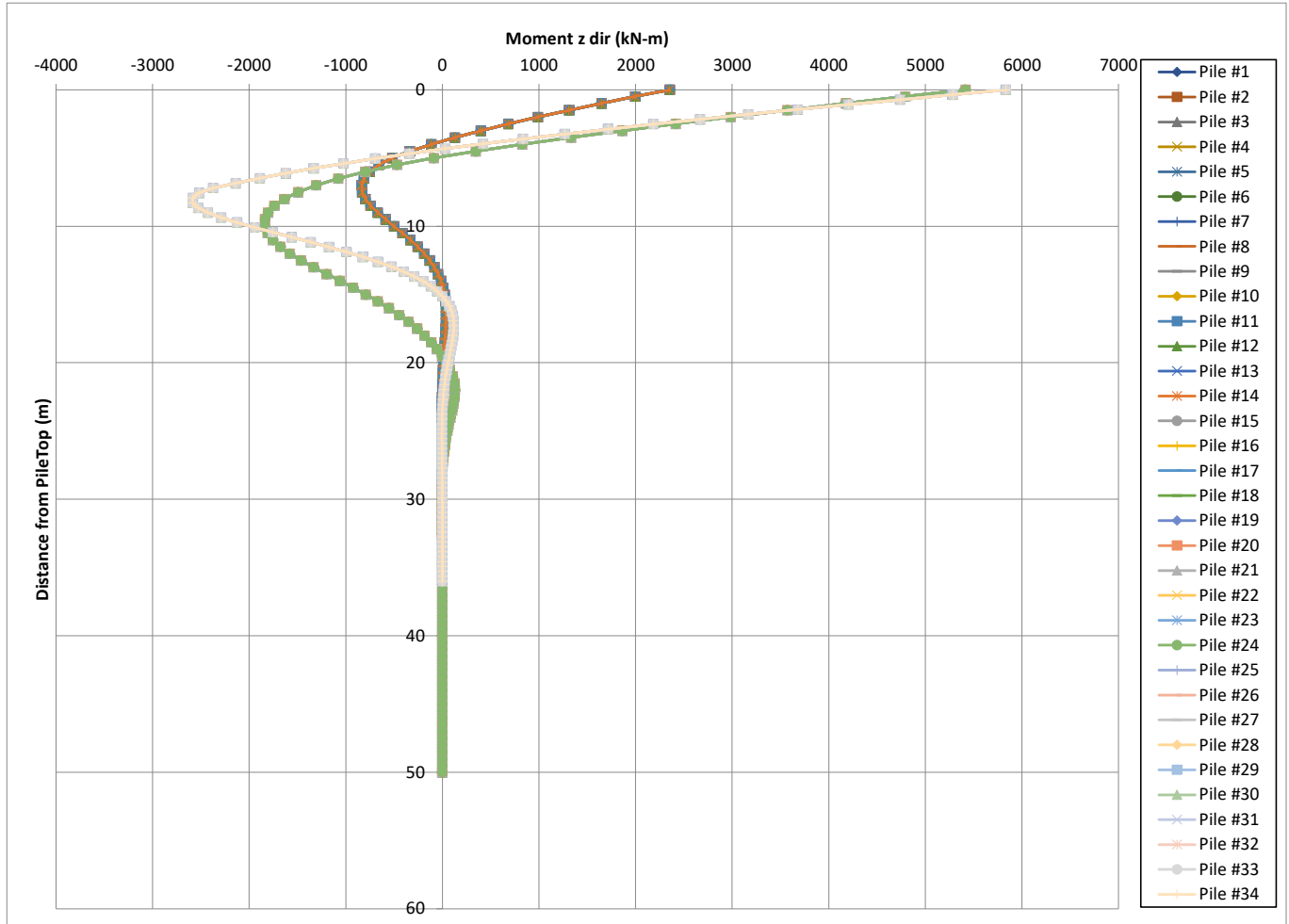


Figura 7-8: Combinazione SLE – Diafr. parallelo asse longitudinale: Andamento con la profondità del momento  $M_z$ , Load case SLE2



<b>APPALTATORE:</b> Consorzio <b>HirpiniaAV</b> Soci <b>salini impregilo</b> <b>ASTALDI</b>		<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <b>ROKSOJL</b> Mandanti <b>NETENGINEERING</b> <b>Alpina</b>							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 25 di 260

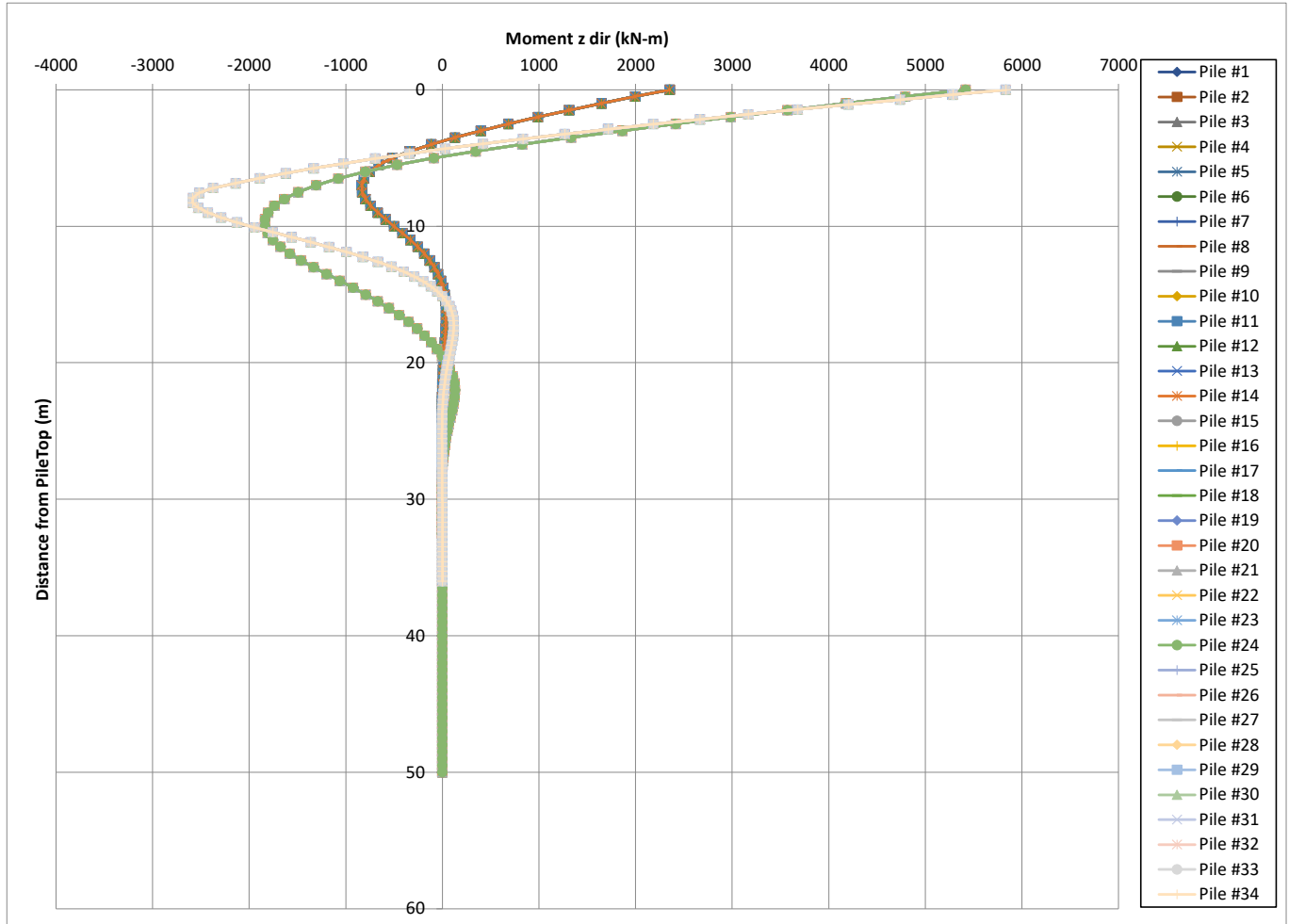


Figura 7-9: Combinazione SLE – Diafr. parallelo asse longitudinale: Andamento con la profondità del momento My, Load case SLE2

<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span> 		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span> 							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 26 di 260

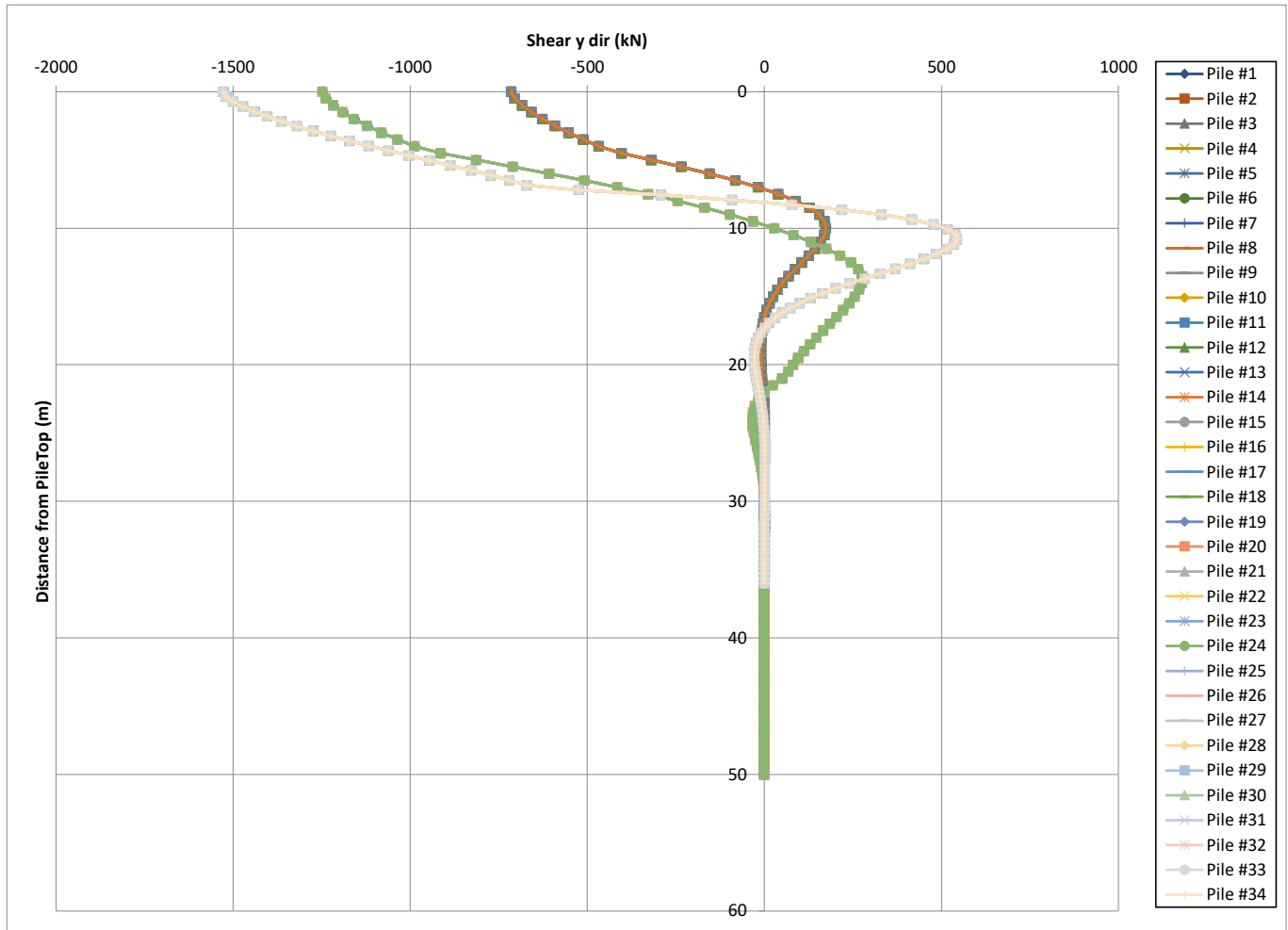


Figura 7-10: Combinazione SLE – Diafr. parallelo asse longitudinale e trasversale: Andamento con la profondità del Taglio  $F_y$ , Load case SLE2

<b>APPALTATORE:</b> Consorzio <b>HirpiniaAV</b> Soci <b>salini impregilo</b> <b>ASTALDI</b>		<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <b>ROKSOJL</b> Mandanti <b>NETENGINEERING</b> <b>Alpina</b>							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 27 di 260

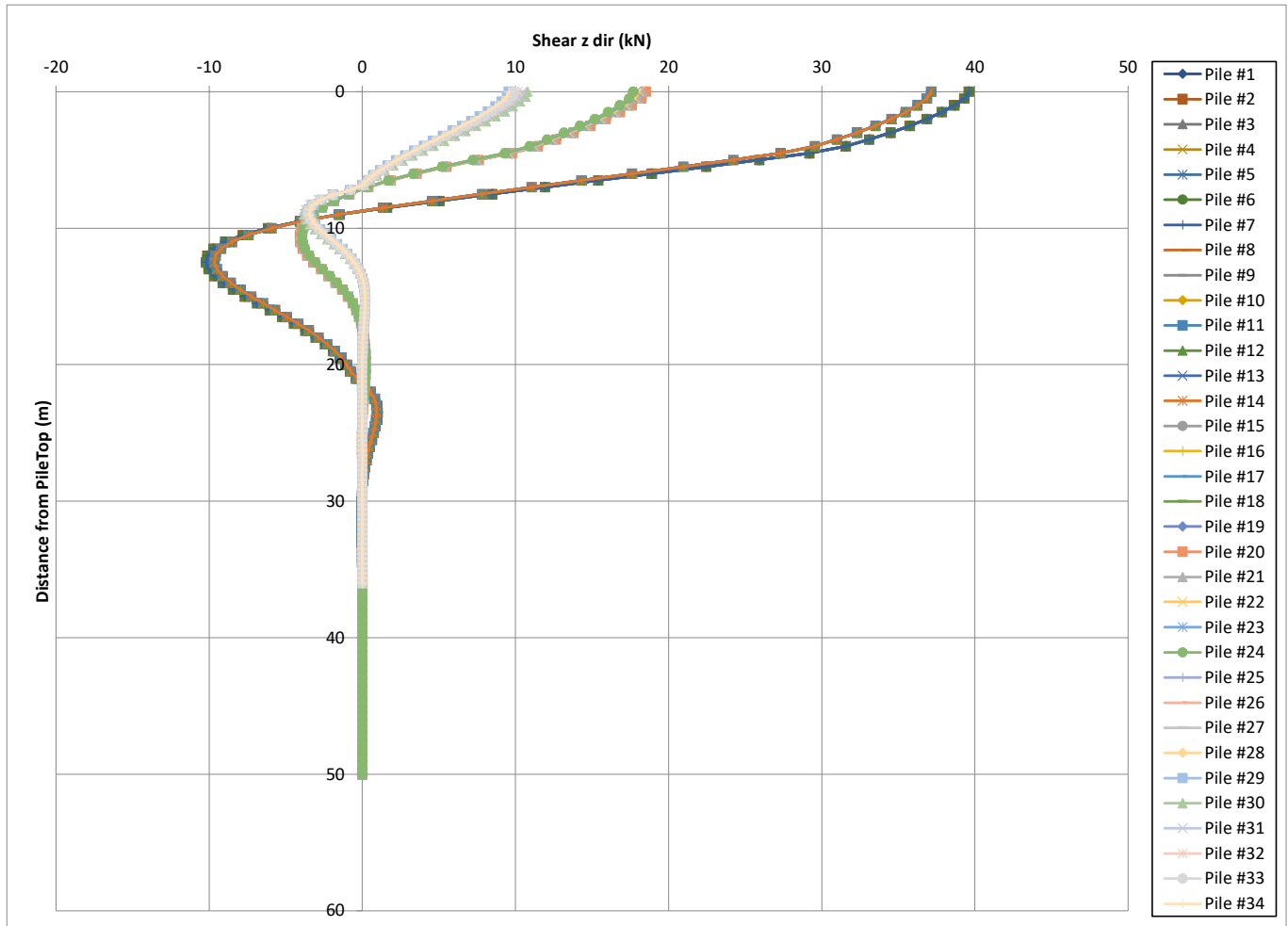


Figura 7-11: Combinazione SLE – Diafr. parallelo asse longitudinale e trasversale: Andamento con la profondità del Taglio Fz, Load case SLE2

### 7.3 SINTESI DEI RISULTATI AGLI STATI LIMITE ULTIMI STATICI (SLU)

Si riassumono nel seguito le sollecitazioni agenti in testa ai diaframmi distinguendo fra i pannelli paralleli alla direzione longitudinale (ovvero direzione 1(y)) e quelli paralleli alla direzione trasversale al viadotto (ovvero direzione 2(z)), secondo lo schema di Figura 7-2.

APPALTATORE: Consorzio  Soci  	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
PROGETTAZIONE: Mandataria  Mandanti  						
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B	COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 28 di 260

SLU - diaframmi paralleli all'asse longitudinale							
LOAD CASE :	PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****	*****
2_SLU	34	<b>3658.8</b>	-2135.9	15.5	0.3	-37.9	-8255.1
5_SLU	15	<b>102.8</b>	-1435.3	31.4	0.7	-99.6	-6359.3
1_SLU	19	2157	<b>-1354.9</b>	26	0	-80	-6002
2_SLU	30	928	<b>-2136.8</b>	17	0	-44	-8255
4_SLU	15	909	-1363	<b>37.7</b>	1	-118	-6046
11_SLU	34	3210	-1962	<b>13.4</b>	0	-29	-7600
6_SLU	15	566	-1540	37	<b>0.773</b>	-119	-6872
11_SLU	25	1248	-1962	14	<b>0.108</b>	-32	-7597
11_SLU	34	3210	-1962	13	0	<b>-29.4</b>	-7600
6_SLU	15	566	-1540	37	1	<b>-119.1</b>	-6872
1_SLU	15	936	-1355	27	0	-85	<b>-6001.6</b>
6_SLU	30	1090	-2135	22	1	-52	<b>-8268.4</b>

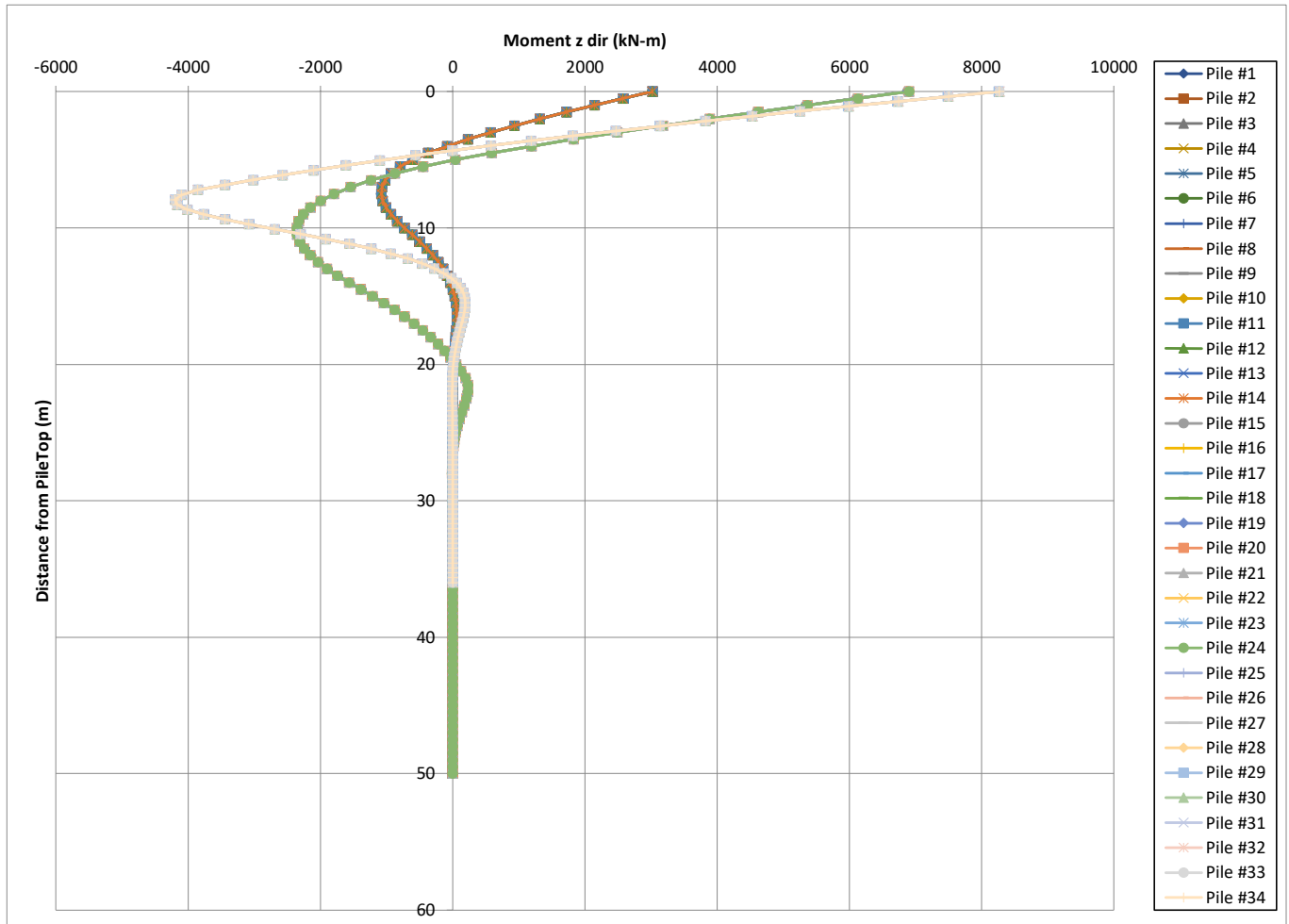
Tabella 15: Sollecitazioni allo SLU massime e minime per i diaframmi paralleli all'asse longitudinale

SLU - diaframmi paralleli all'asse trasversale							
LOAD CASE :	PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****	*****
6_SLU	8	<b>3165.3</b>	-891.9	74.3	0.773	-299	-3028.6
10_SLU	7	<b>-192.5</b>	-888.9	58.5	0.394	-240	-3005.4
1_SLU	14	2380	<b>-777.6</b>	55	0.422	-220	-2608
2_SLU	1	412	<b>-903.7</b>	58	0.396	-240	-3065
4_SLU	7	712	-782	<b>82.6</b>	0.760	-329	-2626
3_SLU	8	2906	-884	<b>46.1</b>	0.481	-191	-2997
6_SLU	1	592	-893	82	<b>0.773</b>	-332	-3028
11_SLU	1	861	-798	60	<b>0.164</b>	-240	-2677
3_SLU	8	2906	-884	46	0.481	<b>-191</b>	-2997
6_SLU	7	249	-890	82	0.773	<b>-333</b>	-3017
1_SLU	7	733	-778	59	0.422	-239	<b>-2607.7</b>
2_SLU	8	3149	-903	55	0.396	-223	<b>-3065.4</b>

Tabella 16: Sollecitazioni allo SLU massime e minime per i diaframmi paralleli all'asse trasversale

Nelle seguenti figure sono diagrammati l'andamento del momento e del taglio con la profondità per le combinazioni di carico in cui le sollecitazioni risultano massime.

<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span> 		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>											
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span> 		<b>COMMESSA</b> IF1N		<b>LOTTO</b> 01 E ZZ		<b>CODIFICA</b> RG		<b>DOCUMENTO</b> MD0000 001		<b>REV.</b> B		<b>FOGLIO</b> 29 di 260	
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>													



**Figura 7-12: Combinazione SLU – Diafr. parallelo asse longitudinale: Andamento con la profondità del momento Mz, Load case SLU6**

<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span> 		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span> 							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 30 di 260

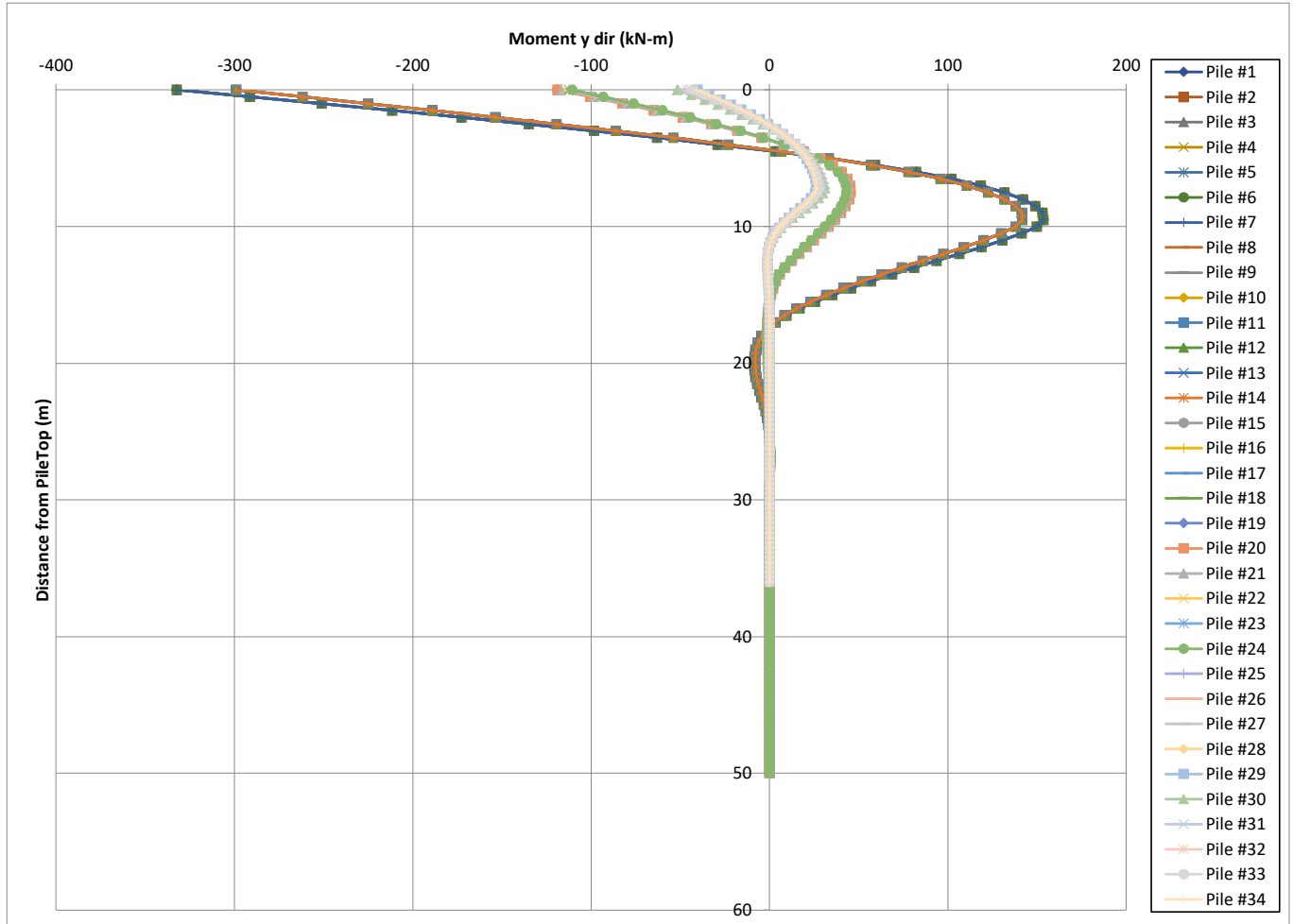


Figura 7-13: Combinazione SLU – Diafr. parallelo asse longitudinale: Andamento con la profondità del momento  $M_y$ , Load case SLU6

<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span> 		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>											
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span> 		<b>COMMESSA</b> IF1N		<b>LOTTO</b> 01 E ZZ		<b>CODIFICA</b> RG		<b>DOCUMENTO</b> MD0000 001		<b>REV.</b> B		<b>FOGLIO</b> 31 di 260	
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>													

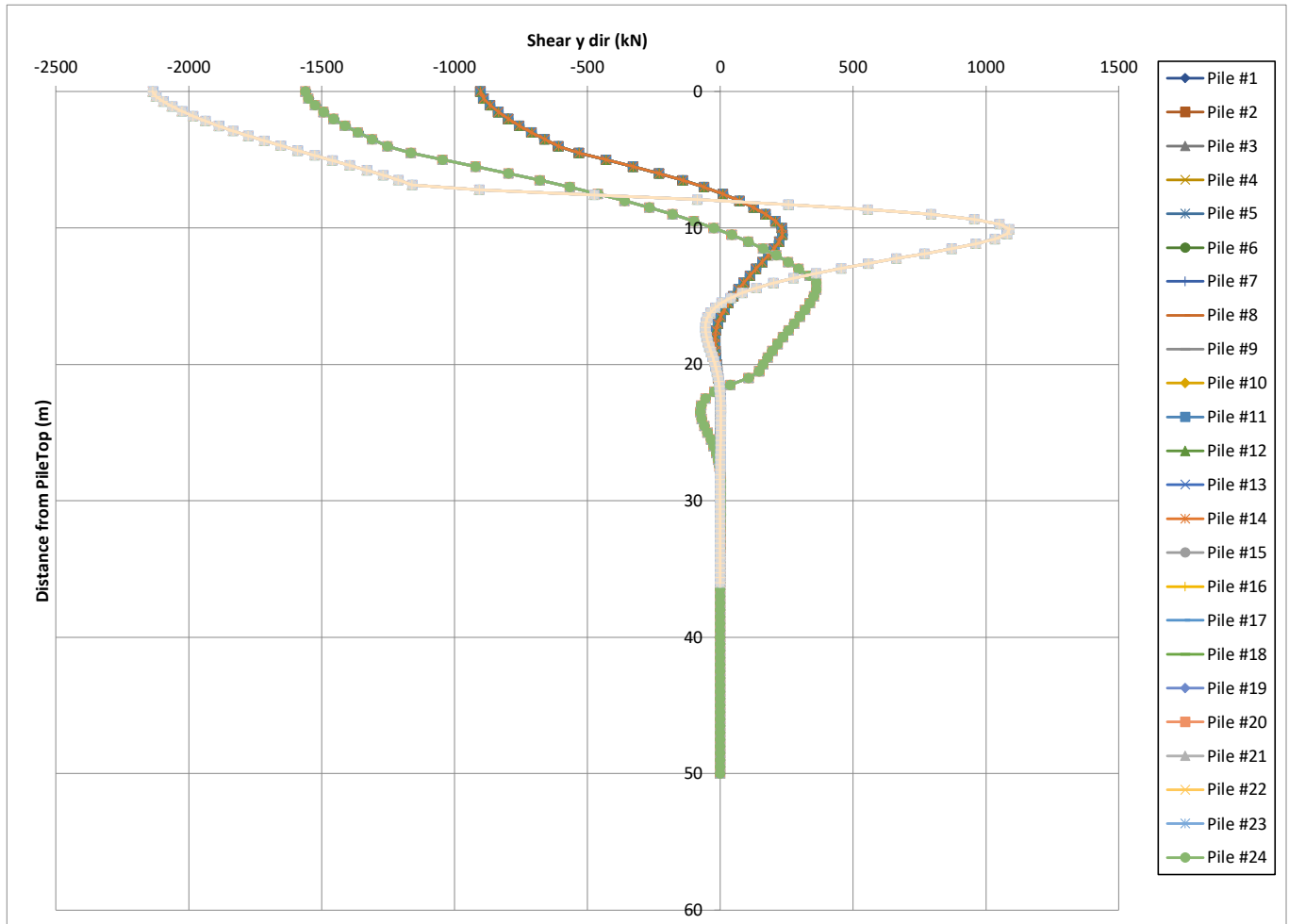


Figura 7-14: Combinazione SLU – Diafr. parallelo asse longitudinale e trasversale: Andamento con la profondità del Taglio  $F_y$ , Load case SLU2

<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span> 		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>											
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span> 		<b>COMMESSA</b> IF1N		<b>LOTTO</b> 01 E ZZ		<b>CODIFICA</b> RG		<b>DOCUMENTO</b> MD0000 001		<b>REV.</b> B		<b>FOGLIO</b> 32 di 260	
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>													

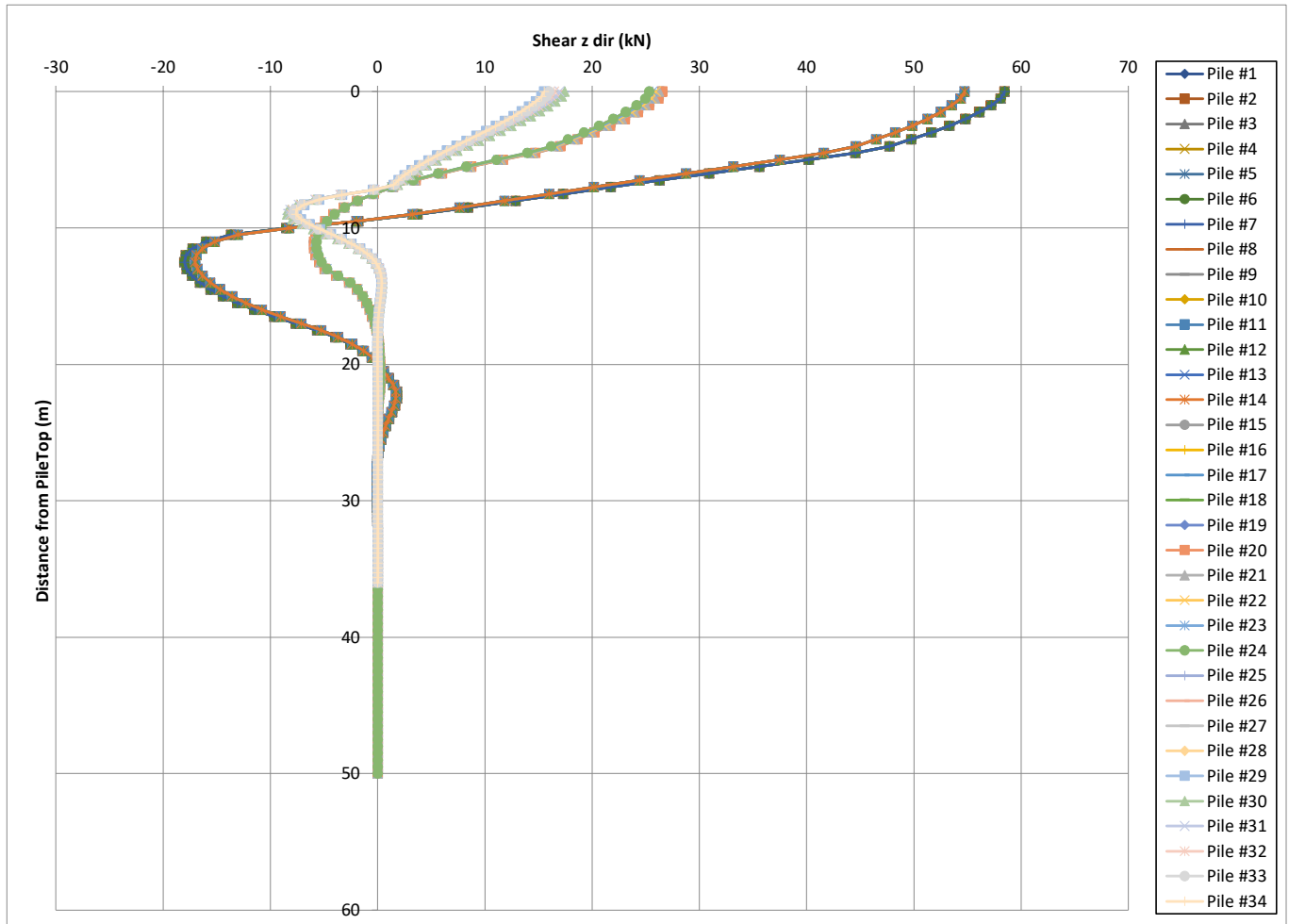





Figura 7-15: Combinazione SLU – Diafr. parallelo asse longitudinale e trasversale: Andamento con la profondità del Taglio Fz, Load case SLU2

### 7.4 SINTESI DEI RISULTATI AGLI STATI LIMITE ULTIMI SISMICI (SLV)

Si riassumono nel seguito le sollecitazioni agenti in testa ai diaframmi distinguendo fra i pannelli paralleli alla direzione longitudinale (ovvero direzione 1(y)) e quelli paralleli alla direzione trasversale al viadotto (ovvero direzione 2(z)), secondo lo schema di Figura 7-2.



APPALTATORE: Consorzio  Soci  	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
PROGETTAZIONE: Mandataria  Mandanti  						
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B	COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 33 di 260

SLV - diaframmi paralleli all'asse longitudinale							
LOAD CASE :	PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****	*****
2_SLV	34	<b>4275.2</b>	-2791.6	1.5	0.1	-3.6	-10823.0
2_SLV	25	<b>-1536.6</b>	-2793.7	2.0	0.1	-5.2	-10822.0
9_SLV	15	1356	<b>-836.8</b>	3	0	-8	-3631
2_SLV	30	-1524	<b>-2794.2</b>	2	0	-5	-10824
7_SLV	15	-1269	-1366	<b>497.0</b>	19	-1660	-6105
11_SLV	20	-1237	-1367	<b>-490.8</b>	-19	1639	-6106
4_SLV	15	-1437	-1369	497	<b>18.886</b>	-1659	-6114
3_SLV	15	1716	-1503	-475	<b>-18.731</b>	1603	-6813
11_SLV	20	-1237	-1367	-491	-19	<b>1638.6</b>	-6106
7_SLV	15	-1269	-1366	497	19	<b>-1659.6</b>	-6105
9_SLV	15	1356	-837	3	0	-8	<b>-3630.7</b>
2_SLV	30	-1524	-2794	2	0	-5	<b>-10824.0</b>

Tabella 17: Sollecitazioni allo SLV massime e minime per i diaframmi paralleli all'asse longitudinale

SLV - diaframmi paralleli all'asse trasversale							
LOAD CASE :	PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****	*****
2_SLV	8	<b>3957.9</b>	-1239.0	5.2	0.1	-22	-4360.0
2_SLV	7	<b>-1909.8</b>	-1242.3	6.1	0.1	-26	-4358.2
9_SLV	7	1426	<b>-464.2</b>	6	0.0	-23	-1498
2_SLV	1	-1882	<b>-1242.6</b>	6	0.1	-26	-4360
7_SLV	7	-1431	-739	<b>990.3</b>	18.9	-4271	-2527
11_SLV	1	-1402	-740	<b>-979.5</b>	-18.7	4224	-2530
4_SLV	1	1310	-814	972	<b>18.9</b>	-4223	-2816
3_SLV	1	-1577	-742	-979	<b>-18.7</b>	4224	-2536
3_SLV	1	-1577	-742	-979	-18.7	<b>4224</b>	-2536
4_SLV	7	-1607	-741	990	18.9	<b>-4271</b>	-2533
9_SLV	6	1431	-464	6	0.0	-23	<b>-1497.5</b>
2_SLV	8	3958	-1239	5	0.1	-22	<b>-4360.0</b>

Tabella 18: Sollecitazioni allo SLV massime e minime per i diaframmi paralleli all'asse trasversale

Nelle seguenti figure sono diagrammati l'andamento del momento e del taglio con la profondità per le combinazioni di carico in cui le sollecitazioni risultano massime.

<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span> 		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span> 							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 34 di 260

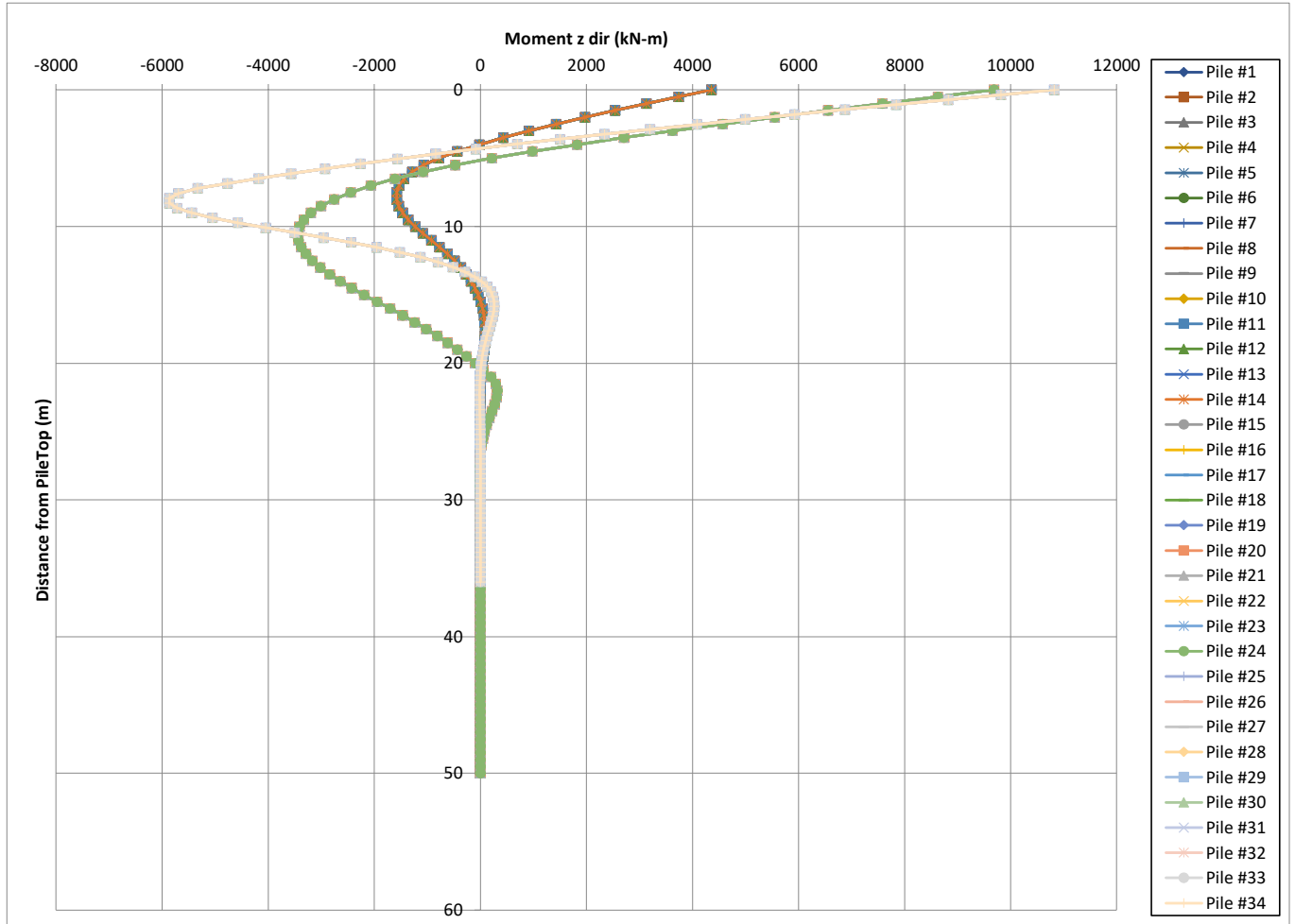


Figura 7-16: Combinazione SLV – Diafr. parallelo asse longitudinale: Andamento con la profondità del momento  $M_z$ , Load case SLV14

<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span> 		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span> 							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 35 di 260

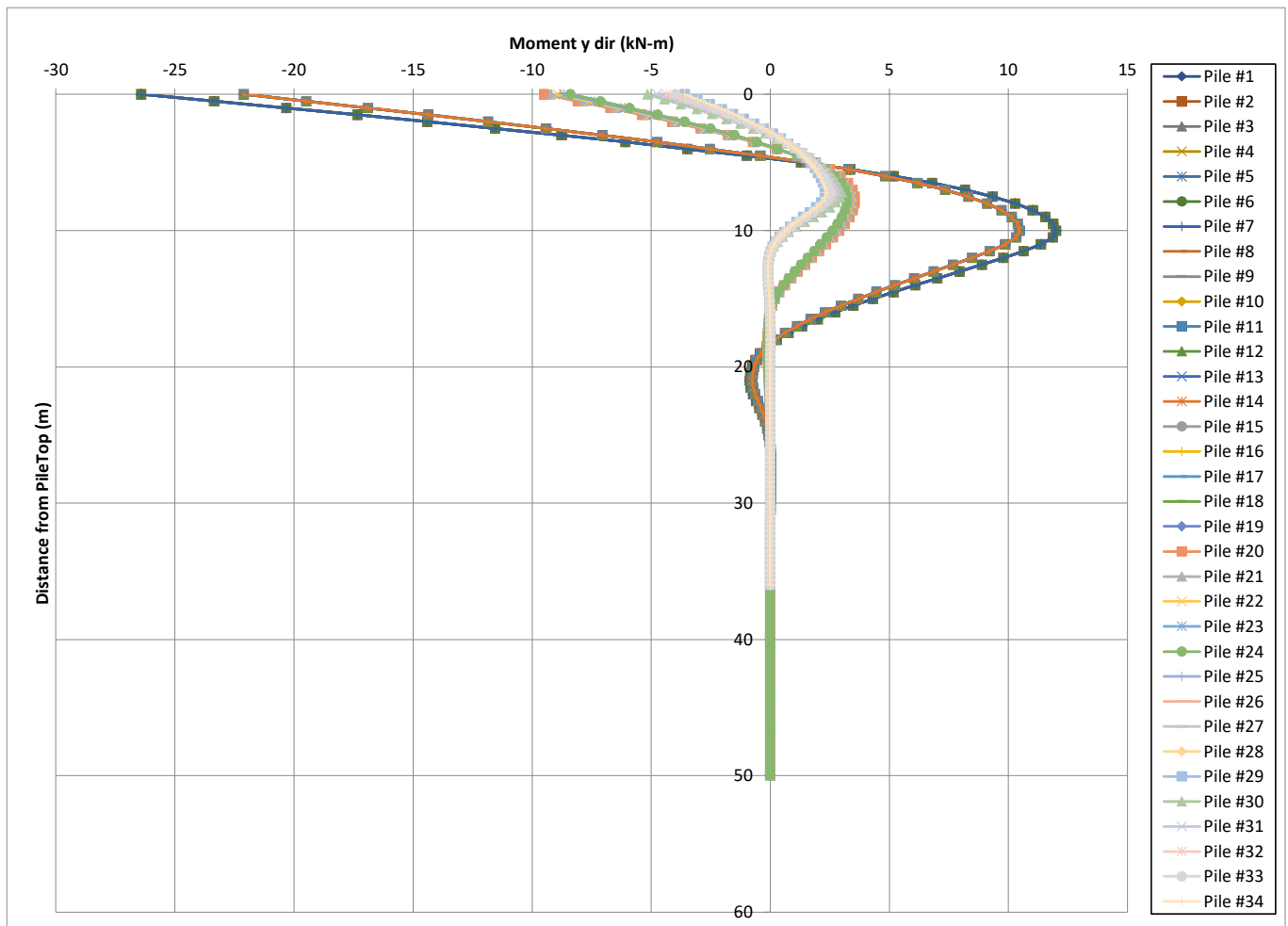


Figura 7-17: Combinazione SLV – Diafr. parallelo asse longitudinale: Andamento con la profondità del momento  $M_y$ , Load case SLV14

<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span> 		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span> 							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 36 di 260

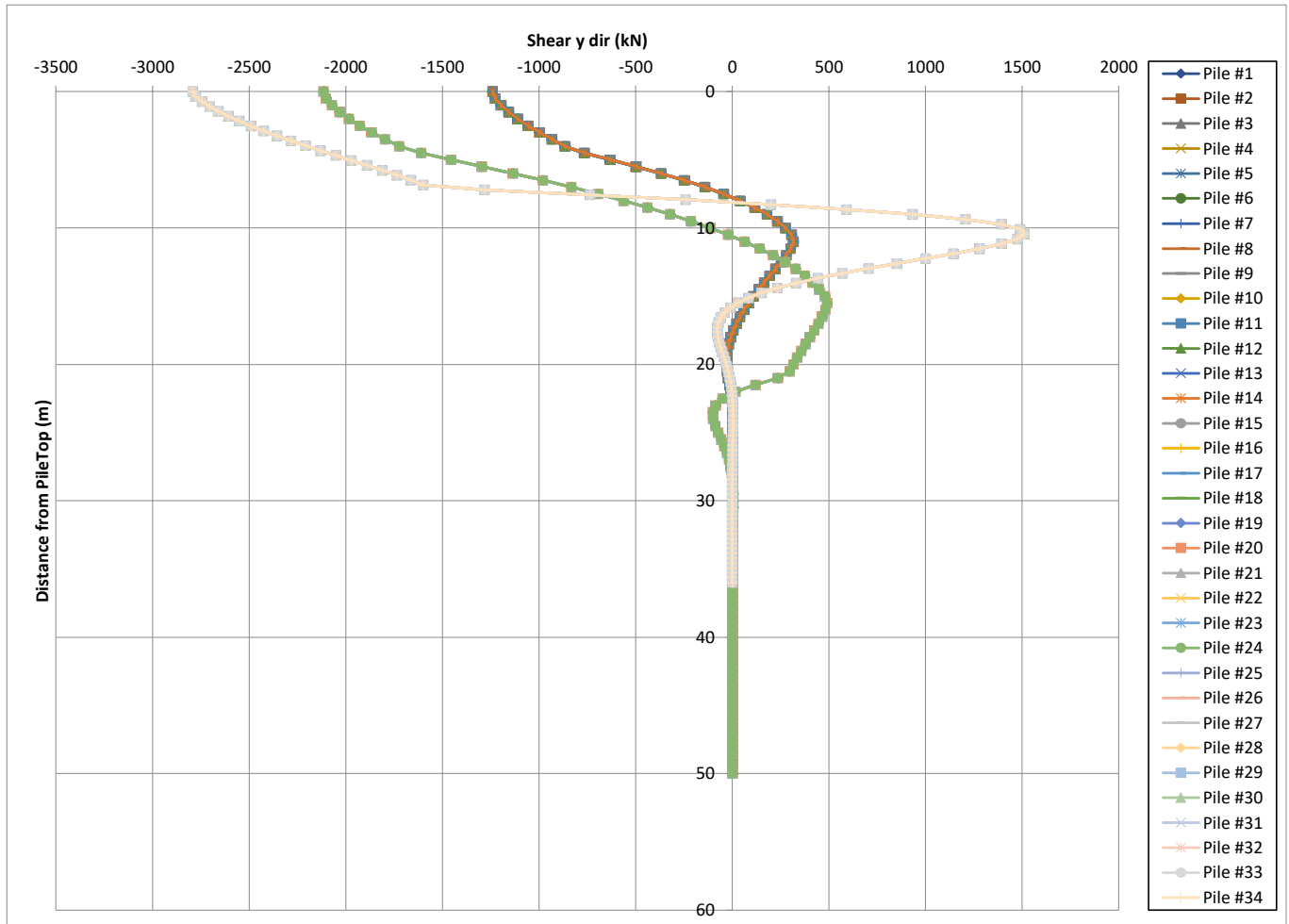


Figura 7-18: Combinazione SLV – Diafr. parallelo asse longitudinale e trasversale: Andamento con la profondità del Taglio  $F_y$ , Load case SLV14

<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span> 		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>											
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span> 		<b>COMMESSA</b> IF1N		<b>LOTTO</b> 01 E ZZ		<b>CODIFICA</b> RG		<b>DOCUMENTO</b> MD0000 001		<b>REV.</b> B		<b>FOGLIO</b> 37 di 260	
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>													

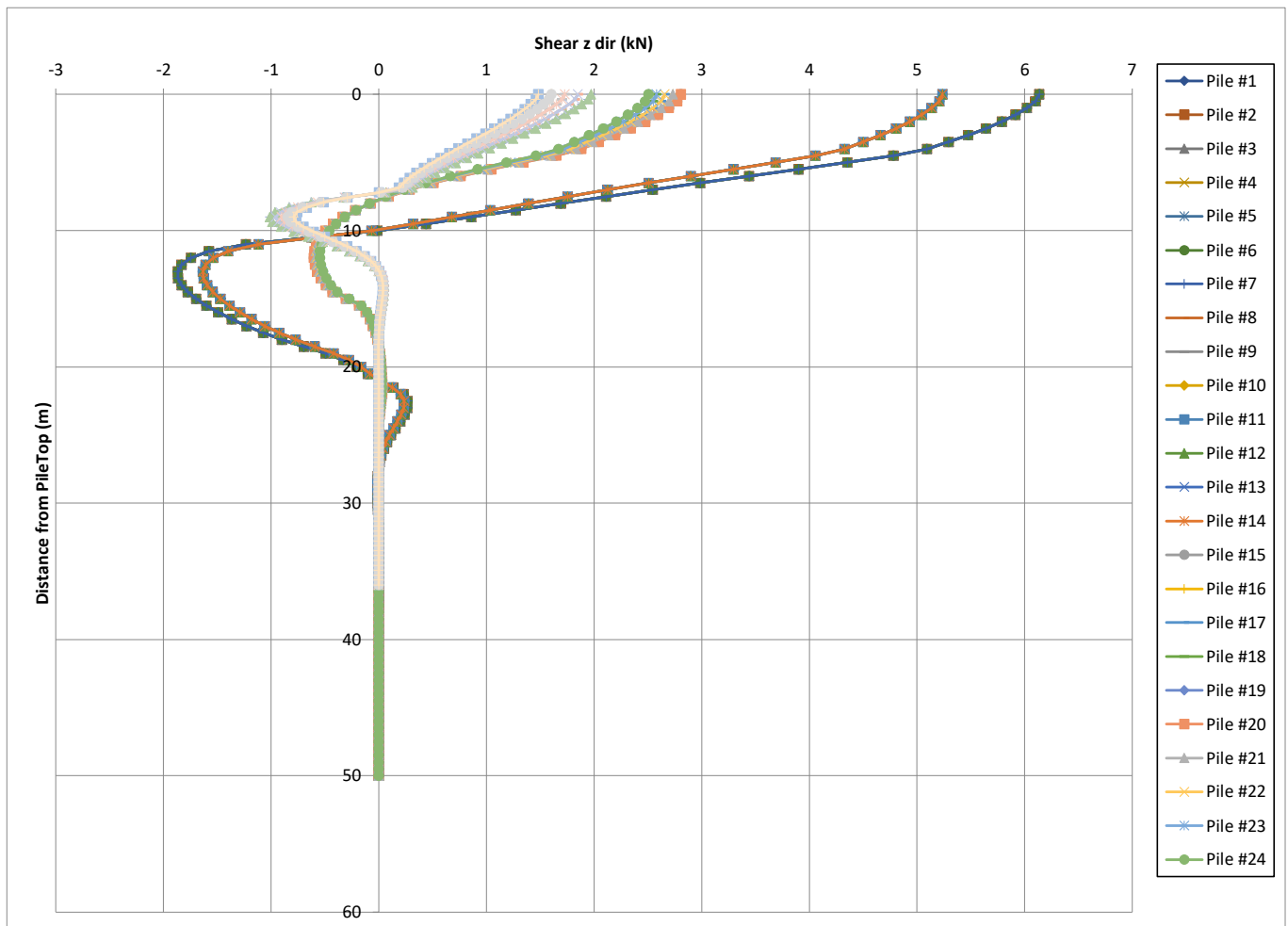


Figura 7-19: Combinazione SLV – Diafr. parallelo asse longitudinale e trasversale: Andamento con la profondità del Taglio Fz, Load case SLV14

<b>APPALTATORE:</b> Consorzio <b>Soci</b> 	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b> 	
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	COMMESSA <b>IF1N</b> LOTTO <b>01 E ZZ</b> CODIFICA <b>RG</b> DOCUMENTO <b>MD0000 001</b> REV. <b>B</b> FOGLIO <b>38 di 260</b>

## 8 VERIFICA DEI DIAFRAMMI DI FONDAZIONE (PARALLELI ALLA DIREZ. TRASVERSALE)

Nel seguito di riportano le verifiche strutturali dei diaframmi disposti paralleli alla direzione trasversale del viadotto (schema fondazione ref. Figura 7-2).

Le sollecitazioni massime agenti lungo il fusto dei diaframmi sono riassunte nella **Tabella 19**.

diaframmi paralleli all'asse trasversale						
LOAD CASE:	PILE GROUP	N	Mx [daNm]	My [daNm]	Fy [daN]	Fx [daN]
2_SLV	8.0	395790	436000	2211.1	123900	523.69
2_SLV	7.0	-190980	435820	2642.6	124230	613.68
9_SLV	7.0	142630	149750	2282.4	46423	635.9
2_SLV	1.0	-188200	435960	2642.3	124260	613.59
7_SLV	7.0	-143120	252720	427060	73906	99034
11_SLV	1.0	-140150	252960	422370	74014	97950
4_SLV	1.0	130950	281570	422290	81371	97246
3_SLV	1.0	-157730	253550	422390	74229	97935
3_SLV	1.0	-157730	253550	422390	74229	97935
4_SLV	7.0	-160690	253300	427080	74121	99018
9_SLV	6.0	143060	149750	2282.4	46424	635.89
2_SLV	8.0	395790	436000	2211.1	123900	523.69
		N	Mx [daNm]	My [daNm]		
	sle	22726	235470	21649		
	sle	0	235470	21649		

**Tabella 19: Sollecitazioni massime agenti nel diaframma**

La sezione di calcolo, in cls – C25/30, di dimensioni ridotte corrisponde al diaframma primario denominato P1 con dimensioni di calcolo pari a 103 cm x 247 cm.

L'armatura prevista è:

- ferri correnti lungo il lato più corto: 2 x 8+8 Ø 30;
- ferri correnti lungo il lato più lungo: 2 x 15+15 Ø 30;
- staffatura: doppia staffa Ø16 passo 20.

L'armatura prevista è rappresentata in **Figura 8-1**.

<b>APPALTATORE:</b> Consorzio <b>HirpiniaAV</b> Soci <b>salini impregilo</b> <b>ASTALDI</b>		<b>ITINERARIO NAPOLI – BARI</b>					
<b>PROGETTAZIONE:</b> Mandataria <b>ROKSOJL</b> Mandanti <b>NETENGINEERING</b> <b>Alpina</b>		<b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 39 di 260

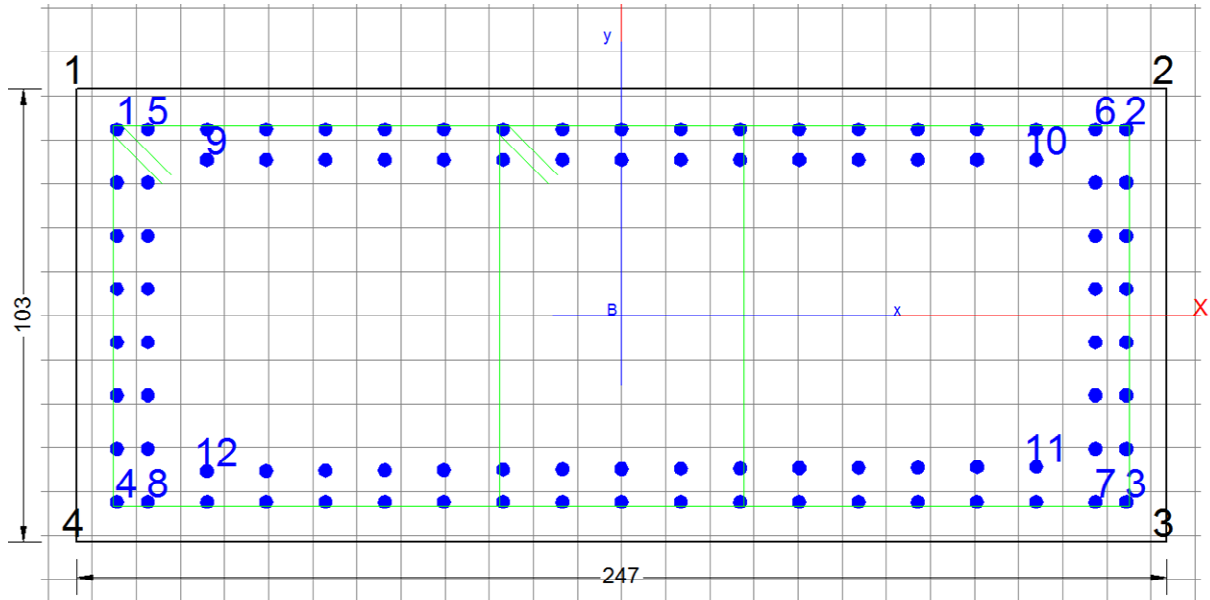


Figura 8-1: Armatura diaframma P1

La verifica strutturale del diaframma è soddisfatta; di seguito i tabulati di calcolo.

## 8.1 VERIFICA STRUTTURALE DEL DIAFRAMMA

### DATI GENERALI SEZIONE GENERICA IN C.A. NOME SEZIONE: VI03-SPA para trasv P1

Descrizione Sezione:	
Metodo di calcolo resistenza:	Resistenze agli Stati Limite Ultimi
Tipologia sezione:	Sezione generica di Pilastro
Normativa di riferimento:	EC2/EC8
Percorso sollecitazione:	A Sforzo Norm. costante
Condizioni Ambientali:	Molto aggressive
Riferimento Sforzi assegnati:	Assi x,y principali d'inerzia
Riferimento alla sismicità:	Zona non sismica

### CARATTERISTICHE DI RESISTENZA DEI MATERIALI IMPIEGATI

CALCESTRUZZO -	Classe:	C25/30
	Resis. compr. di progetto fcd:	141.60 daN/cm <sup>2</sup>
	Resis. compr. ridotta v1*fcd:	70.80 daN/cm <sup>2</sup> cfr.(6.9)EC2
	Def.unit. max resistenza ec2:	0.0020
	Def.unit. ultima ecu:	0.0035
	Diagramma tensione-deformaz.:	Parabola-Rettangolo
	Modulo Elastico Normale Ec:	314750 daN/cm <sup>2</sup>
	Resis. media a trazione fctm:	25.60 daN/cm <sup>2</sup>
	Coeff. Omogen. S.L.E.:	15.00
	Sc limite S.L.E. comb. Q.Permanenti:	137.50 daN/cm <sup>2</sup>
	Ap.Fess.limite S.L.E. comb. Q.Perm.:	0.200 mm
ACCIAIO -	Tipo:	B450C
	Resist. caratt. snervam. fyk:	4500.0 daN/cm <sup>2</sup>

<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span>   		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span>   							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 40 di 260

Resist. caratt. rottura ftk:	4500.0	daN/cm <sup>2</sup>
Resist. snerv. di progetto fyd:	3913.0	daN/cm <sup>2</sup>
Resist. ultima di progetto ftd:	3913.0	daN/cm <sup>2</sup>
Deform. ultima di progetto Epu:	0.068	
Modulo Elastico Ef	2000000	daN/cm <sup>2</sup>
Diagramma tensione-deformaz.:	Bilineare finito	
Coeff. Aderenza istantaneo $\beta_1 \cdot \beta_2$ :	1.00	
Coeff. Aderenza differito $\beta_1 \cdot \beta_2$ :	0.50	

### CARATTERISTICHE DOMINIO CONGLOMERATO

Forma del Dominio: Poligonale  
 Classe Conglomerato: C25/30

N° vertice:	X [cm]	Y [cm]
1	-123.5	51.5
2	123.5	51.5
3	123.5	-51.5
4	-123.5	-51.5

### DATI BARRE ISOLATE

N° Barra	X [cm]	Y [cm]	DiamØ [mm]
1	-114.4	42.4	30
2	114.4	42.4	30
3	114.4	-42.4	30
4	-114.4	-42.4	30
5	-107.4	42.4	30
6	107.4	42.4	30
7	107.4	-42.4	30
8	-107.4	-42.4	30
9	-94.0	35.4	30
10	94.0	35.4	30
11	94.0	-34.4	30
12	-94.0	-35.4	30

### DATI GENERAZIONI LINEARI DI BARRE

N° Gen. Numero assegnato alla singola generazione lineare di barre  
 N° Barra Ini. Numero della barra iniziale cui si riferisce la generazione  
 N° Barra Fin. Numero della barra finale cui si riferisce la generazione  
 N° Barre Numero di barre generate equidistanti cui si riferisce la generazione  
 Ø Diametro in mm delle barre della generazione

N° Gen.	N° Barra Ini.	N° Barra Fin.	N° Barre	Ø
1	7	8	15	30
2	6	5	15	30
3	5	8	6	30
4	6	7	6	30
5	2	3	6	30
6	1	4	6	30
7	9	10	13	30
8	11	12	13	30

### ARMATURE A TAGLIO



<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span>   	
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	COMMESSA <span style="margin-left: 20px;">LOTTO</span> <span style="margin-left: 20px;">CODIFICA</span> <span style="margin-left: 20px;">DOCUMENTO</span> <span style="margin-left: 20px;">REV.</span> <span style="margin-left: 20px;">FOGLIO</span> IF1N <span style="margin-left: 20px;">01 E ZZ</span> <span style="margin-left: 20px;">RG</span> <span style="margin-left: 20px;">MD0000 001</span> <span style="margin-left: 20px;">B</span> <span style="margin-left: 20px;">41 di 260</span>

Diametro staffe: 16 mm

Passo staffe: 20.0 cm

**Indicazione Barre Longitudinali di risvolto per ogni staffa:**

N°Staffa	Barra	Barra	Barra	Barra
1	1	33	18	4
2	37	2	3	22

**Coordinate Barre generate di risvolto delle staffe:**

N°Barra	X[cm]	Y[cm]
33	26.9	42.4
18	26.9	-42.4
37	-26.9	42.4
22	-26.9	-42.4

**CALCOLO DI RESISTENZA - SFORZI PER OGNI COMBINAZIONE ASSEGNATA**

N	Sforzo normale in daN applicato nel Baric. (+ se di compressione)
Mx	Momento flettente [daNm] intorno all'asse x princ. d'inerzia con verso positivo se tale da comprimere il lembo sup. della sez.
My	Momento flettente [daNm] intorno all'asse y princ. d'inerzia con verso positivo se tale da comprimere il lembo destro della sez.
Vy	Componente del Taglio [daN] parallela all'asse princ.d'inerzia y
Vx	Componente del Taglio [daN] parallela all'asse princ.d'inerzia x

N°Comb.	N	Mx	My	Vy	Vx
1	395790	436000	2211	123900	524
2	-190980	435820	2643	124230	614
3	142630	149750	2282	46423	636
4	-188200	435960	2642	124260	614
5	-143120	252720	427060	73906	99034
6	-140150	252960	422370	74014	97950
7	130950	281570	422290	81371	97246
8	-157730	253550	422390	74229	97935
9	-157730	253550	422390	74229	97935
10	-160690	253300	427080	74121	99018
11	143060	149750	2282	46424	636
12	395790	436000	2211	123900	524


**COMB. QUASI PERMANENTI (S.L.E.) - SFORZI PER OGNI COMBINAZIONE ASSEGNATA**

N	Sforzo normale in daN applicato nel Baricentro (+ se di compressione)
Mx	Momento flettente [daNm] intorno all'asse x princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo superiore della sezione
My	Momento flettente [daNm] intorno all'asse y princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo destro della sezione

N°Comb.	N	Mx	My
1	22726	235470 (169152)	21649 (15552)
2	0	235470 (166138)	21649 (15275)

**RISULTATI DEL CALCOLO**

Copriferro netto minimo barre longitudinali:	7.6 cm
Interferro netto minimo barre longitudinali:	4.0 cm
Copriferro netto minimo staffe:	6.0 cm

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<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   						
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>	CODIFICA <b>RG</b>	DOCUMENTO <b>MD0000 001</b>	REV. <b>B</b>	FOGLIO <b>42 di 260</b>

### VERIFICHE DI RESISTENZA IN PRESSO-TENSO FLESSIONE ALLO STATO LIMITE ULTIMO

Ver	S = combinazione verificata / N = combin. non verificata
N Sn	Sforzo normale assegnato [daN] nel baricentro sezione cls. (positivo se di compressione)
Mx Sn	Componente momento assegnato [daNm] riferito all'asse x princ. d'inerzia
My Sn	Componente momento assegnato [daNm] riferito all'asse y princ. d'inerzia
N Res	Sforzo normale resistente [daN] baricentrico (positivo se di compress.)
Mx Res	Momento flettente resistente [daNm] riferito all'asse x princ. d'inerzia
My Res	Momento flettente resistente [daNm] riferito all'asse y princ. d'inerzia
Mis.Sic.	Misura sicurezza = rapporto vettoriale tra (N r, Mx Res, My Res) e (N, Mx, My) Verifica positiva se tale rapporto risulta $\geq 1.000$
As Totale	Area totale barre longitudinali [cm <sup>2</sup> ]. [Tra parentesi il valore minimo di normativa]

N°Comb	Ver	N	Mx	My	N Res	Mx Res	My Res	Mis.Sic.	As Totale
1	S	395790	436000	2211	395767	1115179	532	2.56	650.3(76.3)
2	S	-190980	435820	2643	-190992	943245	4946	2.16	650.3(76.3)
3	S	142630	149750	2282	142642	1044574	13150	6.98	650.3(76.3)
4	S	-188200	435960	2642	-188197	944198	4902	2.17	650.3(76.3)
5	S	-143120	252720	427060	-143111	741118	1247499	2.92	650.3(76.3)
6	S	-140150	252960	422370	-140136	747009	1233824	2.93	650.3(76.3)
7	S	130950	281570	422290	130929	815642	1213936	2.88	650.3(76.3)
8	S	-157730	253550	422390	-157711	745113	1227150	2.91	650.3(76.3)
9	S	-157730	253550	422390	-157711	745113	1227150	2.91	650.3(76.3)
10	S	-160690	253300	427080	-160701	739179	1240924	2.91	650.3(76.3)
11	S	143060	149750	2282	143048	1044694	13148	6.98	650.3(76.3)
12	S	395790	436000	2211	395767	1115179	532	2.56	650.3(76.3)







### METODO AGLI STATI LIMITE ULTIMI - DEFORMAZIONI UNITARIE ALLO STATO ULTIMO

ec max	Deform. unit. massima del conglomerato a compressione
Xc max	Ascissa in cm della fibra corrisp. a ec max (sistema rif. X,Y,O sez.)
Yc max	Ordinata in cm della fibra corrisp. a ec max (sistema rif. X,Y,O sez.)
es min	Deform. unit. minima nell'acciaio (negativa se di trazione)
Xs min	Ascissa in cm della barra corrisp. a es min (sistema rif. X,Y,O sez.)
Ys min	Ordinata in cm della barra corrisp. a es min (sistema rif. X,Y,O sez.)
es max	Deform. unit. massima nell'acciaio (positiva se di compress.)
Xs max	Ascissa in cm della barra corrisp. a es max (sistema rif. X,Y,O sez.)
Ys max	Ordinata in cm della barra corrisp. a es max (sistema rif. X,Y,O sez.)

N°Comb	ec max	Xc max	Yc max	es min	Xs min	Ys min	es max	Xs max	Ys max
1	0.00350	123.5	51.5	0.00245	114.4	42.4	-0.00737	-114.4	-42.4
2	0.00350	123.5	51.5	0.00200	114.4	42.4	-0.01197	-114.4	-42.4
3	0.00350	123.5	51.5	0.00229	114.4	42.4	-0.00902	-114.4	-42.4
4	0.00350	123.5	51.5	0.00201	114.4	42.4	-0.01194	-114.4	-42.4
5	0.00350	123.5	51.5	0.00288	114.4	42.4	-0.00539	-114.4	-42.4
6	0.00350	123.5	51.5	0.00287	114.4	42.4	-0.00539	-114.4	-42.4
7	0.00350	123.5	51.5	0.00291	114.4	42.4	-0.00481	-114.4	-42.4
8	0.00350	123.5	51.5	0.00287	114.4	42.4	-0.00544	-114.4	-42.4
9	0.00350	123.5	51.5	0.00287	114.4	42.4	-0.00544	-114.4	-42.4
10	0.00350	123.5	51.5	0.00287	114.4	42.4	-0.00544	-114.4	-42.4
11	0.00350	123.5	51.5	0.00229	114.4	42.4	-0.00901	-114.4	-42.4
12	0.00350	123.5	51.5	0.00245	114.4	42.4	-0.00737	-114.4	-42.4

### POSIZIONE ASSE NEUTRO PER OGNI COMB. DI RESISTENZA

a, b, c	Coeff. a, b, c nell'eq. dell'asse neutro $aX+bY+c=0$ nel rif. X,Y,O gen.
x/d	Rapp. di duttilità (travi e solette)[§ 4.1.2.1.2.1 NTC]: deve essere $< 0.45$
C.Rid.	Coeff. di riduz. momenti per sola flessione in travi continue

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<b>PROGETTAZIONE:</b> Mandataria  Mandanti  					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>	CODIFICA <b>RG</b>	DOCUMENTO <b>MD0000 001</b>	REV. <b>B</b>	FOGLIO <b>43 di 260</b>

N°Comb	a	b	c	x/d	C.Rid.
1	0.000000019	0.000115683	-0.002460035	----	----
2	0.000000189	0.000164257	-0.004982619	----	----
3	0.000000393	0.000132294	-0.003361704	----	----
4	0.000000189	0.000163934	-0.004965883	----	----
5	0.000017044	0.000051504	-0.001257360	----	----
6	0.000016881	0.000051927	-0.001259021	----	----
7	0.000015051	0.000050314	-0.000949957	----	----
8	0.000016934	0.000052275	-0.001283510	----	----
9	0.000016934	0.000052275	-0.001283510	----	----
10	0.000017099	0.000051847	-0.001281838	----	----
11	0.000000393	0.000132261	-0.003360002	----	----
12	0.000000019	0.000115683	-0.002460035	----	----

### VERIFICHE A TAGLIO

Diam. Staffe: 16 mm  
 Passo staffe: 20.0 cm

Ver S = comb. verificata a taglio / N = comb. non verificata  
 Ved Taglio di progetto [daN] = proiezz. di Vx e Vy sulla normale all'asse neutro  
 Vcd Taglio compressione resistente [daN] lato conglomerato [formula (6.9)EC2]  
 Vwd Taglio resistente [daN] assorbito dalle staffe  
 d | z Altezza utile media pesata sezione ortogonale all'asse neutro | Braccio coppia interna [cm]  
 Vengono prese nella media le strisce con almeno un estremo compresso.  
 I pesi della media sono costituiti dalle stesse lunghezze delle strisce.  
 bw Larghezza media resistente a taglio [cm] misurate parallel. all'asse neutro  
 E' data dal rapporto tra l'area delle sopradette strisce resistenti e Dmed.  
 Ctg Cotangente dell'angolo di inclinazione dei puntoni di conglomerato  
 Acw Coefficiente maggiorativo della resistenza a taglio per compressione  
 Ast Area staffe+legature strettam. necessarie a taglio per metro di pil.[cm²/m]  
 A.Eff Area staffe+legature efficaci nella direzione del taglio di combinaz.[cm²/m]  
 Tra parentesi è indicata la quota dell'area relativa alle sole legature.  
 L'area della legatura è ridotta col fattore L/d\_max con L=lungh.legat.proietta-  
 ta sulla direz. del taglio e d\_max= massima altezza utile nella direz.del taglio.

N°Comb	Ver	Ved	Vcd	Vwd	d   z	bw	Ctg	Acw	Ast	A.Eff
1	N	123900	493341	321752	93.9  81.8	247.0	2.500	1.000	15.5	40.2(0.0)
2	N	124231	515430	335679	94.5  85.4	247.1	2.500	1.000	14.9	40.2(0.0)
3	N	46425	503931	327332	93.9  83.5	247.3	2.500	1.000	5.7	40.1(0.0)
4	N	124261	515328	335613	94.5  85.4	247.1	2.500	1.000	14.9	40.2(0.0)
5	N	101277	437032	274360	97.3  85.1	210.3	2.500	1.000	12.2	33.0(0.0)
6	N	100670	441194	274842	97.2  85.1	212.4	2.500	1.000	12.1	33.0(0.0)
7	N	105827	475174	269109	95.5  82.5	235.9	2.500	1.000	13.1	33.3(0.0)
8	N	100797	441748	275247	97.2  85.2	212.4	2.500	1.000	12.1	33.0(0.0)
9	N	100797	441748	275247	97.2  85.2	212.4	2.500	1.000	12.1	33.0(0.0)
10	N	101405	437589	274764	97.3  85.2	210.4	2.500	1.000	12.2	33.0(0.0)
11	N	46426	503915	327322	93.9  83.5	247.3	2.500	1.000	5.7	40.1(0.0)
12	N	123900	493341	321752	93.9  81.8	247.0	2.500	1.000	15.5	40.2(0.0)

### COMBINAZIONI QUASI PERMANENTI IN ESERCIZIO - MASSIME TENSIONI NORMALI ED APERTURA FESSURE (NTC/EC2)

Ver S = comb. verificata/ N = comb. non verificata  
 Sc max Massima tensione (positiva se di compressione) nel conglomerato [daN/cm²]  
 Xc max, Yc max Ascissa, Ordinata [cm] del punto corrisp. a Sc max (sistema rif. X,Y,O)  
 Sf min Minima tensione (negativa se di trazione) nell'acciaio [daN/cm²]  
 Xs min, Ys min Ascissa, Ordinata [cm] della barra corrisp. a Sf min (sistema rif. X,Y,O)  
 Ac eff. Area di calcestruzzo [cm²] in zona tesa considerata aderente alle barre  
 As eff. Area barre [cm²] in zona tesa considerate efficaci per l'apertura delle fessure

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<b>PROGETTAZIONE:</b> Mandataria  Mandanti  							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>							

N°Comb	Ver	Sc max	Xc max	Yc max	Sf min	Xs min	Ys min	Ac eff.	As eff.
1	S	48.3	123.5	51.5	-1118	-114.4	-42.4	5164	254.5
2	S	47.8	123.5	51.5	-1154	-114.4	-42.4	5246	254.5

### COMBINAZIONI QUASI PERMANENTI IN ESERCIZIO - APERTURA FESSURE [§ 7.3.4 EC2]

Ver.	La sezione viene assunta sempre fessurata anche nel caso in cui la trazione minima del calcestruzzo sia inferiore a $f_{ctm}$
e1	Esito della verifica
e2	Massima deformazione unitaria di trazione nel calcestruzzo (trazione -) valutata in sezione fessurata
k1	Minima deformazione unitaria di trazione nel calcestruzzo (trazione -) valutata in sezione fessurata = 0.8 per barre ad aderenza migliorata [eq.(7.11)EC2]
kt	= 0.4 per comb. quasi permanenti / = 0.6 per comb. frequenti [cfr. eq.(7.9)EC2]
k2	= 0.5 per flessione; $= (e1 + e2) / (2 * e1)$ per trazione eccentrica [eq.(7.13)EC2]
k3	= 3.400 Coeff. in eq.(7.11) come da annessi nazionali
k4	= 0.425 Coeff. in eq.(7.11) come da annessi nazionali
Ø	Diametro [mm] equivalente delle barre tese comprese nell'area efficace $Ac_{eff}$ [eq.(7.11)EC2]
Cf	Copriferro [mm] netto calcolato con riferimento alla barra più tesa
e <sub>sm</sub> - e <sub>cm</sub>	Differenza tra le deformazioni medie di acciaio e calcestruzzo [(7.8)EC2 e (C4.1.7)NTC]
sr max	Tra parentesi: valore minimo = $0.6 S_{max} / E_s$ [(7.9)EC2 e (C4.1.8)NTC]
wk	Massima distanza tra le fessure [mm]
Mx fess.	Apertura fessure in mm calcolata = $sr \max * (e_{sm} - e_{cm})$ [(7.8)EC2 e (C4.1.7)NTC]. Valore limite tra parentesi
My fess.	Componente momento di prima fessurazione intorno all'asse X [daNm]
	Componente momento di prima fessurazione intorno all'asse Y [daNm]

Comb.	Ver	e1	e2	k2	Ø	Cf	e <sub>sm</sub> - e <sub>cm</sub>	sr max	wk	Mx fess	My fess
1	S	-0.00065	0	0.500	30.0	76	0.00042 (0.00034)	362	0.153 (0.20)	169152	15552
2	S	-0.00067	0	0.500	30.0	76	0.00044 (0.00035)	364	0.160 (0.20)	166138	15275

### VERIFICA ARMATURE MINIME SLE PER CONTROLLO FESSURAZIONE (§ 7.3.2 EC2)

N°Comb.	Numero della combinazione SLE
Tipo Comb.	Frequente o Quasi Permanente
Dom.	Numero e tipologia dominio di calcestruzzo assegnato (parte di sezione considerata)
k	Coeff. che tiene conto delle autotensioni [(7.1) EC2]
kc	Coeff. associato alla distribuzione degli sforzi [(7.1) EC2]
Act	Area di cls. teso (prima della fessurazione) relativo al dominio corrente [(7.1) EC2]
Ned	Sforzo normale (+ se di compressione) agente nel cls. del dominio prima della fessuraz. [daN]
Sc	= $Ned / Ac$ sforzo normale medio nel dominio di area $Ac$ per sezioni rett. o nervature [(7.1) EC2]
k1	Coeff. associato all'effetto dello sforzo normale sulla distribuzione degli sforzi (sez. rett. o nervature)
Frc	Sforzo di trazione (valore assoluto) agente nelle eventuali solette prima della fessuraz. [daN]
As dom	Area [cm <sup>2</sup> ] delle barre long. in zona tesa effettivamente presenti nel dominio considerato.
As,min	Area [cm <sup>2</sup> ] minima delle barre long. da disporre in zona tesa nel dominio considerato in base alla (7.1) EC2.

N°Comb	Tipo Comb.	Dom.	k	kc	Act	Ned	Sc	k1	Frc	As dom	As,min
1	Quasi perm.	1 (Nervatura)	0.65	0.39	12473	---	---	---	-214090	325.2	22.7
2	Quasi perm.	1 (Nervatura)	0.65	0.40	12721	---	---	---	-222236	325.2	23.5

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<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b> 						
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## 9 VERIFICA DEI DIAFRAMMI DI FONDAZIONE (PARALLELI ALLA DIREZ. LONGITUDINALE)

Nel seguito di riportano le verifiche strutturali dei diaframmi disposti paralleli alla direzione longitudinale del viadotto (schema fondazione ref. Figura 7-2).

Le sollecitazioni massime agenti lungo il fusto dei diaframmi sono riassunte nella Tabella 20.

diaframmi paralleli all'asse longitudinale						
LOAD CASE:	PILE GROUP	N	Mx [daNm]	My [daNm]	Fy [daN]	Fx [daN]
2_SLV	34.0	427520	359.1	1082300	148.1	279160
2_SLV	25.0	-153660	515.16	1082200	197.24	279370
9_SLV	15.0	135570	824.51	363070	289.92	83684
2_SLV	30.0	-152430	515.14	1082400	197.23	279420
7_SLV	15.0	-126870	165960	610500	49703	136590
11_SLV	20.0	-123670	163860	610590	49078	136660
4_SLV	15.0	-143720	165930	611350	49683	136890
3_SLV	15.0	171620	160320	681340	47545	150280
11_SLV	20.0	-123670	163860	610590	49078	136660
7_SLV	15.0	-126870	165960	610500	49703	136590
9_SLV	15.0	135570	824.51	363070	289.92	83684
2_SLV	30.0	-152430	515.14	1082400	197.23	279420
LOAD CASE:	PILE GROUP	N	Mx [daNm]	My [daNm]		
2_SLE	34.0	257100.0	2188.2	583550.0		
5_SLE	15.0	41122.0	6663.3	510280.0		
1_SLE	18.0	137150.0	5535.9	487280.0		
2_SLE	30.0	75756.0	2551.2	583560.0		
4_SLE	15.0	66785.0	8052.3	490360.0		
10_SLE	34.0	235760.0	1682.4	552280.0		
4_SLE	15.0	66785.0	8052.3	490360.0		
10_SLE	25.0	91353.0	1829.4	552110.0		
10_SLE	34.0	235760.0	1682.4	552280.0		
4_SLE	15.0	66785.0	8052.3	490360.0		
1_SLE	15.0	68544.0	5772.9	487270.0		
2_SLE	30.0	75756.0	2551.2	583560.0		

Tabella 20: Sollecitazioni massime agenti nel diaframma

La sezione di calcolo, in cls – C25/30, di dimensioni ridotte corrisponde al diaframma primario denominato P con dimensioni di calcolo pari a 120 cm x 247 cm.

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<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span>   						
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L'armatura prevista è:

- ferri correnti lungo il lato più corto: 2 x 8+8 Ø 30;
- ferri correnti lungo il lato più lungo: 2 x 15+15 Ø 30;
- staffatura: doppia staffa Ø16 passo 20.

L'armatura prevista è rappresentata in Figura 9-1.

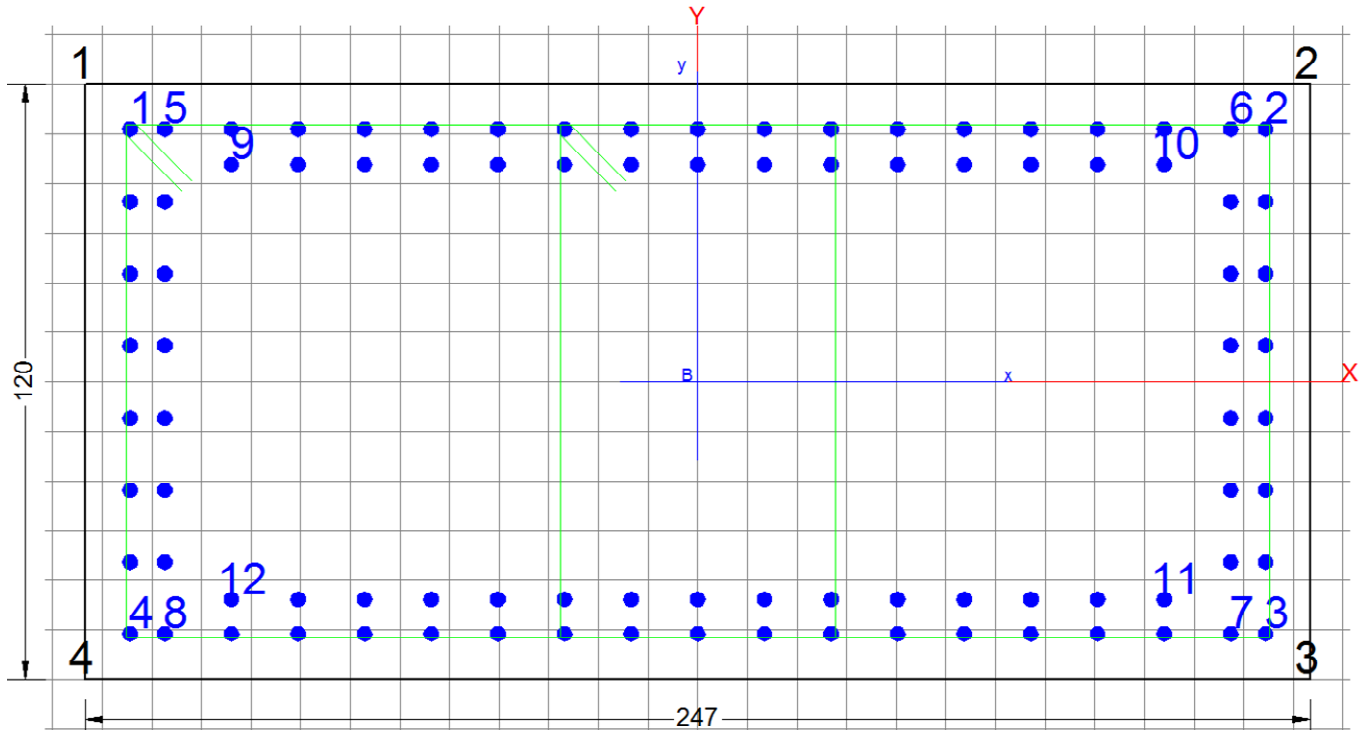


Figura 9-1: Armatura diaframma P

La verifica strutturale del diaframma è soddisfatta; di seguito i tabulati di calcolo.

## 9.1 VERIFICA STRUTTURALE DEL DIAFRAMMA

### DATI GENERALI SEZIONE GENERICA IN C.A.

NOME SEZIONE: VI03-SPA para long P

Descrizione Sezione:	
Metodo di calcolo resistenza:	Resistenze agli Stati Limite Ultimi
Tipologia sezione:	Sezione generica di Pilastro
Normativa di riferimento:	EC2/EC8
Percorso sollecitazione:	A Sforzo Norm. costante
Condizioni Ambientali:	Molto aggressive
Riferimento Sforzi assegnati:	Assi x,y principali d'inerzia
Riferimento alla sismicità:	Zona non sismica

### CARATTERISTICHE DI RESISTENZA DEI MATERIALI IMPIEGATI

CALCESTRUZZO -	Classe:	C25/30
	Resis. compr. di progetto fcd:	141.60 daN/cm <sup>2</sup>

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Resis. compr. ridotta v1* $f_{cd}$ :	70.80	daN/cm <sup>2</sup>	cfr.(6.9)EC2
Def.unit. max resistenza ec2:	0.0020		
Def.unit. ultima ecu:	0.0035		
Diagramma tensione-deformaz.:	Parabola-Rettangolo		
Modulo Elastico Normale Ec:	314750	daN/cm <sup>2</sup>	
Resis. media a trazione fctm:	25.60	daN/cm <sup>2</sup>	
Coeff. Omogen. S.L.E.:	15.00		
Sc limite S.L.E. comb. Q.Permanenti:	137.50	daN/cm <sup>2</sup>	
Ap.Fess.limite S.L.E. comb. Q.Perm.:	0.200	mm	

ACCIAIO -	Tipo:	B450C	
	Resist. caratt. snervam. fyk:	4500.0	daN/cm <sup>2</sup>
	Resist. caratt. rottura ftk:	4500.0	daN/cm <sup>2</sup>
	Resist. snerv. di progetto fyd:	3913.0	daN/cm <sup>2</sup>
	Resist. ultima di progetto ftd:	3913.0	daN/cm <sup>2</sup>
	Deform. ultima di progetto Epu:	0.068	
	Modulo Elastico Ef	2000000	daN/cm <sup>2</sup>
	Diagramma tensione-deformaz.:	Bilineare finito	
	Coeff. Aderenza istantaneo $\beta_1*\beta_2$ :	1.00	
	Coeff. Aderenza differito $\beta_1*\beta_2$ :	0.50	

#### CARATTERISTICHE DOMINIO CONGLOMERATO

Forma del Dominio: Poligonale  
 Classe Conglomerato: C25/30

N°vertice:	X [cm]	Y [cm]
1	-123.5	60.0
2	123.5	60.0
3	123.5	-60.0
4	-123.5	-60.0

#### DATI BARRE ISOLATE

N°Barra	X [cm]	Y [cm]	DiamØ[mm]
1	-114.4	50.9	30
2	114.4	50.9	30
3	114.4	-50.9	30
4	-114.4	-50.9	30
5	-107.4	50.9	30
6	107.4	50.9	30
7	107.4	-50.9	30
8	-107.4	-50.9	30
9	-94.0	43.9	30
10	94.0	43.9	30
11	94.0	-43.9	30
12	-94.0	-43.9	30

#### DATI GENERAZIONI LINEARI DI BARRE

N°Gen. Numero assegnato alla singola generazione lineare di barre  
 N°Barra Ini. Numero della barra iniziale cui si riferisce la generazione  
 N°Barra Fin. Numero della barra finale cui si riferisce la generazione  
 N°Barre Numero di barre generate equidistanti cui si riferisce la generazione  
 Ø Diametro in mm delle barre della generazione

N°Gen.      N°Barra Ini.      N°Barra Fin.      N°Barre      Ø

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1	7	8	15	30
2	6	5	15	30
3	5	8	6	30
4	6	7	6	30
5	2	3	6	30
6	1	4	6	30
7	9	10	13	30
8	11	12	13	30

#### ARMATURE A TAGLIO

Diametro staffe: 16 mm  
 Passo staffe: 20.0 cm

#### Indicazione Barre Longitudinali di risolvo per ogni staffa:

N°Staffa	Barra	Barra	Barra	Barra
1	1	33	18	4
2	37	2	3	22

#### Coordinate Barre generate di risolvo delle staffe:

N°Barra	X[cm]	Y[cm]
33	26.9	50.9
18	26.9	-50.9
37	-26.9	50.9
22	-26.9	-50.9

#### CALCOLO DI RESISTENZA - SFORZI PER OGNI COMBINAZIONE ASSEGNATA







N Sforzo normale in daN applicato nel Baric. (+ se di compressione)  
 Mx Momento flettente [daNm] intorno all'asse x princ. d'inerzia con verso positivo se tale da comprimere il lembo sup. della sez.  
 My Momento flettente [daNm] intorno all'asse y princ. d'inerzia con verso positivo se tale da comprimere il lembo destro della sez.  
 Vy Componente del Taglio [daN] parallela all'asse princ.d'inerzia y  
 Vx Componente del Taglio [daN] parallela all'asse princ.d'inerzia x

N°Comb.	N	Mx	My	Vy	Vx
1	427520	359	1082300	148	279160
2	-153660	515	1082200	197	279370
3	135570	825	363070	290	83684
4	-152430	515	1082400	197	279420
5	-126870	165960	610500	49703	136590
6	-123670	163860	610590	49078	136660
7	-143720	165930	611350	49683	136890
8	171620	160320	681340	47545	150280
9	-123670	163860	610590	49078	136660
10	-126870	165960	610500	49703	136590
11	135570	825	363070	290	83684
12	-152430	515	1082400	197	279420

#### COMB. QUASI PERMANENTI (S.L.E.) - SFORZI PER OGNI COMBINAZIONE ASSEGNATA

N Sforzo normale in daN applicato nel Baricentro (+ se di compressione)  
 Mx Momento flettente [daNm] intorno all'asse x princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo superiore della sezione  
 My Momento flettente [daNm] intorno all'asse y princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo destro della sezione



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N°Comb.	N	Mx	My
1	257100	2188 (2043)	583550 (544910)
2	41122	6663 (5848)	510280 (447879)
3	137150	5536 (5607)	487280 (493545)
4	75756	2551 (2037)	583560 (465978)
5	66785	8052 (7490)	490360 (456146)
6	235760	1682 (1650)	552280 (541807)
7	66785	8052 (7490)	490360 (456146)
8	91353	1829 (1573)	552110 (474820)
9	235760	1682 (1650)	552280 (541807)
10	66785	8052 (7490)	490360 (456146)
11	68544	5773 (5465)	487270 (461279)
12	75756	2551 (2037)	583560 (465978)

### RISULTATI DEL CALCOLO

Copriferro netto minimo barre longitudinali:	7.6 cm
Interferro netto minimo barre longitudinali:	4.0 cm
Copriferro netto minimo staffe:	6.0 cm






### VERIFICHE DI RESISTENZA IN PRESSO-TENSO FLESSIONE ALLO STATO LIMITE ULTIMO

Ver	S = combinazione verificata / N = combin. non verificata
N Sn	Sforzo normale assegnato [daN] nel baricentro sezione cls. (positivo se di compressione)
Mx Sn	Componente momento assegnato [daNm] riferito all'asse x princ. d'inerzia
My Sn	Componente momento assegnato [daNm] riferito all'asse y princ. d'inerzia
N Res	Sforzo normale resistente [daN] baricentrico (positivo se di compress.)
Mx Res	Momento flettente resistente [daNm] riferito all'asse x princ. d'inerzia
My Res	Momento flettente resistente [daNm] riferito all'asse y princ. d'inerzia
Mis.Sic.	Misura sicurezza = rapporto vettoriale tra (N r, Mx Res, My Res) e (N, Mx, My) Verifica positiva se tale rapporto risulta >=1.000
As Totale	Area totale barre longitudinali [cm²]. [Tra parentesi il valore minimo di normativa]

N°Comb	Ver	N	Mx	My	N Res	Mx Res	My Res	Mis.Sic.	As Totale
1	S	427520	359	1082300	427541	127	2616804	2.42	650.3(88.9)
2	S	-153660	515	1082200	-153672	205	2310399	2.13	650.3(88.9)
3	S	135570	825	363070	135587	1230	2477695	6.82	650.3(88.9)
4	S	-152430	515	1082400	-152433	205	2311146	2.14	650.3(88.9)
5	S	-126870	165960	610500	-126854	523232	1958239	3.20	650.3(88.9)
6	S	-123670	163860	610590	-123674	520761	1962958	3.21	650.3(88.9)
7	S	-143720	165930	611350	-143715	522042	1949896	3.19	650.3(88.9)
8	S	171620	160320	681340	171633	505723	2134179	3.13	650.3(88.9)
9	S	-123670	163860	610590	-123674	520761	1962958	3.21	650.3(88.9)
10	S	-126870	165960	610500	-126854	523232	1958239	3.20	650.3(88.9)
11	S	135570	825	363070	135587	1230	2477695	6.82	650.3(88.9)
12	S	-152430	515	1082400	-152433	205	2311146	2.14	650.3(88.9)

### METODO AGLI STATI LIMITE ULTIMI - DEFORMAZIONI UNITARIE ALLO STATO ULTIMO

ec max	Deform. unit. massima del conglomerato a compressione
Xc max	Deform. unit. massima del conglomerato a compressione Ascissa in cm della fibra corrisp. a ec max (sistema rif. X,Y,O sez.)
Yc max	Ordinata in cm della fibra corrisp. a ec max (sistema rif. X,Y,O sez.)
es min	Deform. unit. minima nell'acciaio (negativa se di trazione)
Xs min	Ascissa in cm della barra corrisp. a es min (sistema rif. X,Y,O sez.)
Ys min	Ordinata in cm della barra corrisp. a es min (sistema rif. X,Y,O sez.)
es max	Deform. unit. massima nell'acciaio (positiva se di compress.)
Xs max	Ascissa in cm della barra corrisp. a es max (sistema rif. X,Y,O sez.)
Ys max	Ordinata in cm della barra corrisp. a es max (sistema rif. X,Y,O sez.)

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<b>PROGETTAZIONE:</b> Mandataria  Mandanti  					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
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N°Comb	ec max	Xc max	Yc max	es min	Xs min	Ys min	es max	Xs max	Ys max
1	0.00350	123.5	60.0	0.00311	114.4	50.9	-0.00672	-114.4	-50.9
2	0.00350	123.5	60.0	0.00299	114.4	50.9	-0.00986	-114.4	-50.9
3	0.00350	123.5	60.0	0.00306	114.4	50.9	-0.00809	-114.4	-50.9
4	0.00350	123.5	60.0	0.00299	114.4	50.9	-0.00986	-114.4	-50.9
5	0.00350	123.5	60.0	0.00300	114.4	50.9	-0.00607	-114.4	-50.9
6	0.00350	123.5	60.0	0.00300	114.4	50.9	-0.00607	-114.4	-50.9
7	0.00350	123.5	60.0	0.00300	114.4	50.9	-0.00611	-114.4	-50.9
8	0.00350	123.5	60.0	0.00304	114.4	50.9	-0.00542	-114.4	-50.9
9	0.00350	123.5	60.0	0.00300	114.4	50.9	-0.00607	-114.4	-50.9
10	0.00350	123.5	60.0	0.00300	114.4	50.9	-0.00607	-114.4	-50.9
11	0.00350	123.5	60.0	0.00306	114.4	50.9	-0.00809	-114.4	-50.9
12	0.00350	123.5	60.0	0.00299	114.4	50.9	-0.00986	-114.4	-50.9

#### POSIZIONE ASSE NEUTRO PER OGNI COMB. DI RESISTENZA

a, b, c      Coeff. a, b, c nell'eq. dell'asse neutro  $aX+bY+c=0$  nel rif. X,Y,O gen.  
 x/d          Rapp. di duttilità (travi e solette)[§ 4.1.2.1.2.1 NTC]: deve essere < 0.45  
 C.Rid.        Coeff. di riduz. momenti per sola flessione in travi continue



N°Comb	a	b	c	x/d	C.Rid.
1	0.000042947	0.000000014	-0.001804825	----	----
2	0.000056166	0.000000027	-0.003438080	----	----
3	0.000048677	0.000000111	-0.002518291	----	----
4	0.000056132	0.000000027	-0.003433928	----	----
5	0.000027596	0.000027078	-0.001532741	----	----
6	0.000027651	0.000026957	-0.001532269	----	----
7	0.000027736	0.000027195	-0.001557090	----	----
8	0.000026266	0.000024061	-0.001187524	----	----
9	0.000027651	0.000026957	-0.001532269	----	----
10	0.000027596	0.000027078	-0.001532741	----	----
11	0.000048677	0.000000111	-0.002518291	----	----
12	0.000056132	0.000000027	-0.003433928	----	----

#### VERIFICHE A TAGLIO

Diam. Staffe:                    16 mm  
 Passo staffe:                    20.0 cm

Ver      S = comb. verificata a taglio / N = comb. non verificata  
 Ved     Taglio di progetto [daN] = proiezz. di Vx e Vy sulla normale all'asse neutro  
 Vcd     Taglio compressione resistente [daN] lato conglomerato [formula (6.9)EC2]  
 Vwd     Taglio resistente [daN] assorbito dalle staffe  
 d | z     Altezza utile media pesata sezione ortogonale all'asse neutro | Braccio coppia interna [cm]  
           Vengono prese nella media le strisce con almeno un estremo compresso.  
           I pesi della media sono costituiti dalle stesse lunghezze delle strisce.  
 bw      Larghezza media resistente a taglio [cm] misurate parallel. all'asse neutro  
           E' data dal rapporto tra l'area delle sopradette strisce resistenti e Dmed.  
 Ctg      Cotangente dell'angolo di inclinazione dei puntoni di conglomerato  
 Acw      Coefficiente maggiorativo della resistenza a taglio per compressione  
 Ast      Area staffe+legature strettam. necessarie a taglio per metro di pil.[cm²/m]  
 A.Eff    Area staffe+legature efficaci nella direzione del taglio di combinaz.[cm²/m]  
           Tra parentesi è indicata la quota dell'area relativa alle sole legature.  
           L'area della legatura è ridotta col fattore L/d\_max con L=lungh.legat.proietta-  
           ta sulla direz. del taglio e d\_max= massima altezza utile nella direz.del taglio.

N°Comb	Ver	Ved	Vcd	Vwd	d   z	bw	Ctg	Acw	Ast	A.Eff
--------	-----	-----	-----	-----	-------	----	-----	-----	-----	-------

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<b>PROGETTAZIONE:</b> Mandataria <span style="float:right">Mandanti</span> 		<b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>	CODIFICA <b>RG</b>	DOCUMENTO <b>MD0000 001</b>	REV. <b>B</b>	FOGLIO <b>51 di 260</b>

1	N	279160	601898	498645237.9	205.3	120.1	2.500	1.000	13.9	24.8(0.0)
2	N	279370	624585	517307237.9	213.0	120.1	2.500	1.000	13.4	24.8(0.0)
3	N	83684	614655	507561237.5	208.9	120.5	2.500	1.000	4.1	24.8(0.0)
4	N	279420	624541	517271237.9	213.0	120.1	2.500	1.000	13.4	24.8(0.0)
5	N	132304	434175	369392144.0	128.0	138.9	2.500	1.000	10.6	29.5(0.0)
6	N	132113	433186	369957144.3	128.3	138.3	2.500	1.000	10.5	29.5(0.0)
7	N	132529	431029	369068143.9	127.9	138.0	2.500	1.000	10.6	29.5(0.0)
8	N	142930	446988	374962148.5	130.9	139.9	2.500	1.000	11.2	29.3(0.0)
9	N	132113	433186	369957144.3	128.3	138.3	2.500	1.000	10.5	29.5(0.0)
10	N	132304	434175	369392144.0	128.0	138.9	2.500	1.000	10.6	29.5(0.0)
11	N	83684	614655	507561237.5	208.9	120.5	2.500	1.000	4.1	24.8(0.0)
12	N	279420	624541	517271237.9	213.0	120.1	2.500	1.000	13.4	24.8(0.0)

### COMBINAZIONI QUASI PERMANENTI IN ESERCIZIO - MASSIME TENSIONI NORMALI ED APERTURA FESSURE (NTC/EC2)



Ver	S = comb. verificata/ N = comb. non verificata
Sc max	Massima tensione (positiva se di compressione) nel conglomerato [daN/cm <sup>2</sup> ]
Xc max, Yc max	Ascissa, Ordinata [cm] del punto corrisp. a Sc max (sistema rif. X,Y,O)
Sf min	Minima tensione (negativa se di trazione) nell'acciaio [daN/cm <sup>2</sup> ]
Xs min, Ys min	Ascissa, Ordinata [cm] della barra corrisp. a Sf min (sistema rif. X,Y,O)
Ac eff.	Area di calcestruzzo [cm <sup>2</sup> ] in zona tesa considerata aderente alle barre
As eff.	Area barre [cm <sup>2</sup> ] in zona tesa considerate efficaci per l'apertura delle fessure

N°Comb	Ver	Sc max	Xc max	Yc max	Sf min	Xs min	Ys min	Ac eff.	As eff.
1	S	51.0	123.5	60.0	-919	-114.4	-50.9	5073	169.6
2	S	43.0	123.5	60.0	-1116	-114.4	-50.9	5504	169.6
3	S	42.4	123.5	60.0	-900	-114.4	-50.9	5242	169.6
4	S	48.7	123.5	60.0	-1215	-114.4	-50.9	5525	169.6
5	S	42.1	123.5	60.0	-1030	-114.4	-50.9	5397	169.6
6	S	48.2	123.5	60.0	-881	-114.4	-50.9	5103	169.6
7	S	42.1	123.5	60.0	-1030	-114.4	-50.9	5397	169.6
8	S	46.3	123.5	60.0	-1115	-114.4	-50.9	5487	169.6
9	S	48.2	123.5	60.0	-881	-114.4	-50.9	5103	169.6
10	S	42.1	123.5	60.0	-1030	-114.4	-50.9	5397	169.6
11	S	41.4	123.5	60.0	-1014	-114.4	-50.9	5436	169.6
12	S	48.7	123.5	60.0	-1215	-114.4	-50.9	5525	169.6

### COMBINAZIONI QUASI PERMANENTI IN ESERCIZIO - APERTURA FESSURE [§ 7.3.4 EC2]

Ver.	La sezione viene assunta sempre fessurata anche nel caso in cui la trazione minima del calcestruzzo sia inferiore a fctm
e1	Esito della verifica
e2	Massima deformazione unitaria di trazione nel calcestruzzo (trazione -) valutata in sezione fessurata
k1	Minima deformazione unitaria di trazione nel calcestruzzo (trazione -) valutata in sezione fessurata
kt	= 0.8 per barre ad aderenza migliorata [eq.(7.11)EC2]
k2	= 0.4 per comb. quasi permanenti / = 0.6 per comb.frequenti [cfr. eq.(7.9)EC2]
k3	= 0.5 per flessione; =(e1 + e2)/(2*e1) per trazione eccentrica [eq.(7.13)EC2]
k4	= 3.400 Coeff. in eq.(7.11) come da annessi nazionali
Ø	= 0.425 Coeff. in eq.(7.11) come da annessi nazionali
Cf	Diametro [mm] equivalente delle barre tese comprese nell'area efficace Ac eff [eq.(7.11)EC2]
e sm - e cm	Copriferro [mm] netto calcolato con riferimento alla barra più tesa
sr max	Differenza tra le deformazioni medie di acciaio e calcestruzzo [(7.8)EC2 e (C4.1.7)NTC]
wk	Tra parentesi: valore minimo = 0.6 Smax / Es [(7.9)EC2 e (C4.1.8)NTC]
Mx fess.	Massima distanza tra le fessure [mm]
My fess.	Apertura fessure in mm calcolata = sr max*(e_sm - e_cm) [(7.8)EC2 e (C4.1.7)NTC]. Valore limite tra parentesi
	Componente momento di prima fessurazione intorno all'asse X [daNm]
	Componente momento di prima fessurazione intorno all'asse Y [daNm]

Comb.	Ver	e1	e2	k2	Ø	Cf	e sm - e cm	sr max	wk	Mx fess	My fess
1	S	-0.00049	0	0.500	30.0	76	0.00028 (0.00028)	411	0.113 (0.20)	2043	544910
2	S	-0.00059	0	0.500	30.0	76	0.00036 (0.00033)	424	0.152 (0.20)	5848	447879







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<b>PROGETTAZIONE:</b> Mandataria <span style="float: right;">Mandanti</span> 					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
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3	S	-0.00048	0	0.500	30.0	76	0.00027 (0.00027)	416	0.112 (0.20)	5607	493545
4	S	-0.00064	0	0.500	30.0	76	0.00041 (0.00036)	424	0.173 (0.20)	2037	465978
5	S	-0.00055	0	0.500	30.0	76	0.00032 (0.00031)	421	0.134 (0.20)	7490	456146
6	S	-0.00047	0	0.500	30.0	76	0.00026 (0.00026)	412	0.109 (0.20)	1650	541807
7	S	-0.00055	0	0.500	30.0	76	0.00032 (0.00031)	421	0.134 (0.20)	7490	456146
8	S	-0.00059	0	0.500	30.0	76	0.00036 (0.00033)	423	0.152 (0.20)	1573	474820
9	S	-0.00047	0	0.500	30.0	76	0.00026 (0.00026)	412	0.109 (0.20)	1650	541807
10	S	-0.00055	0	0.500	30.0	76	0.00032 (0.00031)	421	0.134 (0.20)	7490	456146
11	S	-0.00054	0	0.500	30.0	76	0.00031 (0.00030)	422	0.131 (0.20)	5465	461279
12	S	-0.00064	0	0.500	30.0	76	0.00041 (0.00036)	424	0.173 (0.20)	2037	465978

### VERIFICA ARMATURE MINIME SLE PER CONTROLLO FESSURAZIONE (§ 7.3.2 EC2)

N°Comb.	Numero della combinazione SLE
Tipo Comb.	Frequente o Quasi Permanente
Dom.	Numero e tipologia dominio di calcestruzzo assegnato (parte di sezione considerata)
k	Coeff. che tiene conto delle autotensioni [(7.1) EC2]
kc	Coeff. associato alla distribuzione degli sforzi [(7.1) EC2]
Act	Area di cls. teso (prima della fessurazione) relativo al dominio corrente [(7.1) EC2]
Ned	Sforzo normale (+ se di compressione) agente nel cls. del dominio prima della fessuraz.[daN]
Sc	=Ned/Ac sforzo normale medio nel dominio di area Ac per sezioni rett. o nervature [(7.1) EC2]
k1	Coeff. associato all'effetto dello sforzo normale sulla distribuzione degli sforzi (sez. rett. o nervature)
Frc	Sforzo di trazione (valore assoluto) agente nelle eventuali solette prima della fessuraz.[daN]
As dom	Area [cm <sup>2</sup> ] delle barre long. in zona tesa effettivamente presenti nel dominio considerato.
As,min	Area [cm <sup>2</sup> ] minima delle barre long. da disporre in zona tesa nel dominio considerato in base alla (7.1) EC2.

N°Comb	Tipo Comb.	Dom.	k	kc	Act	Ned	Sc	k1	Frc	As dom	As,min
1	Quasi perm.	1 (Nervatura)	0.65	0.34	11968	---	---	---	-162387	282.7	19.0
2	Quasi perm.	1 (Nervatura)	0.65	0.39	14309	---	---	---	-203208	311.0	25.9
3	Quasi perm.	1 (Nervatura)	0.65	0.37	12957	---	---	---	-160135	296.9	22.1
4	Quasi perm.	1 (Nervatura)	0.65	0.38	13980	---	---	---	-222028	311.0	24.8
5	Quasi perm.	1 (Nervatura)	0.65	0.39	13917	---	---	---	-185526	311.0	24.8
6	Quasi perm.	1 (Nervatura)	0.65	0.35	12055	---	---	---	-155951	282.7	19.4
7	Quasi perm.	1 (Nervatura)	0.65	0.39	13917	---	---	---	-185526	311.0	24.8
8	Quasi perm.	1 (Nervatura)	0.65	0.38	13770	---	---	---	-203137	311.0	24.2
9	Quasi perm.	1 (Nervatura)	0.65	0.35	12055	---	---	---	-155951	282.7	19.4
10	Quasi perm.	1 (Nervatura)	0.65	0.39	13917	---	---	---	-185526	311.0	24.8
11	Quasi perm.	1 (Nervatura)	0.65	0.38	13918	---	---	---	-183553	311.0	24.8
12	Quasi perm.	1 (Nervatura)	0.65	0.38	13980	---	---	---	-222028	311.0	24.8

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PROGETTAZIONE: Mandataria  Mandanti  	<b>RADDOPPIO TRATTA APICE – ORSARA I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B	COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 53 di 260

## 10 VERIFICHE ALLO SLU DI TIPO GEOTECNICO

### 10.1 VERIFICA DI CAPACITÀ PORTANTE DEL PANNELLO SINGOLO

La verifica di capacità portante verticale per il singolo pannello è stata condotta in accordo ai criteri esposti nel documento di cui al ref. 2).

Di seguito si riporta, per i diaframmi di fondazione di lunghezza  $L = 50$  m, la capacità portante a compressione ( $R_{c,d}$ ) e a trazione ( $R_{t,d}$ ), secondo l'approccio 2 (A1+M1+R3).

I carichi assiali massimi agenti sui diaframmi sono riassunti nella seguente tabella:

Massima compressione, $N_{dc}$ , max [kN]	4275.0 (SLV)
Massima trazione, $N_{dt}$ , max [kN]	-1910.0 (SLV)

Tabella 21: Combinazione SLU e SLV: Sollecitazioni massime di compressione e trazione

Si verifica inoltre che lo sforzo assiale massimo in esercizio (Tabella 19) sia inferiore della resistenza laterale di calcolo ( $R_{c,s,k}$ ) divisa per un fattore pari a 1.25.

Massima compressione, $N_{dcSLE}$ , max [kN]	2571.0 (SLE)
--	--------------

Tabella 22: Combinazione SLE: Sollecitazione massima di compressione

#### 10.1.1 Capacità portante verticale del pannello singolo






Stratigrafia e parametri geotecnici

Dati di input		
Spessore diaframma	1.2	m
Sviluppo diaframma	2.5	m
Sovraccarico efficace	40.0	kPa
HW da testa palo	0.0	m
$\gamma$ acqua	10.0	kN/m <sup>3</sup>
$\Delta z$ palo da p.c. originario	4.0	m
N° diametri per qb	4.0	(-)
L palo fuori terra	0.0	(m)
Peso calcestruzzo	25.0	kN/m <sup>3</sup>
Pressione max sul cls.	11.34	MPa

Caratteristiche del terreno

Profondità (m)		Strato	Terreno	$\gamma_{tot}$	Nspt		$c_u$ (kPa)		$\Delta z$	$\phi^\circ$		Ng	
da	a	No.	(S,SL,G,A)	kN/m <sup>3</sup>	da	a	da	a	(m)	da	a	da	a
0.0	4.50	1	A	20.0			30	30	1.00				
4.5	21.0	2	A	20.0			60	60	1.00				
21.0	25.0	3	A	21.0			450	450	1.00				
25.0	60.0	4	A	21.0			2500	2500	1.00				

Verticali di indagine	$\xi_3$	$\xi_4$
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<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span>   	
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	COMMESSA <span style="margin-left: 50px;">LOTTO</span> <span style="margin-left: 50px;">CODIFICA</span> <span style="margin-left: 50px;">DOCUMENTO</span> <span style="margin-left: 50px;">REV.</span> <span style="margin-left: 50px;">FOGLIO</span> IF1N <span style="margin-left: 50px;">01 E ZZ</span> <span style="margin-left: 50px;">RG</span> <span style="margin-left: 50px;">MD0000 001</span> <span style="margin-left: 50px;">B</span> <span style="margin-left: 50px;">54 di 260</span>

3	1.60	1.48
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Combinazione SLE (metodo AGI)						
L palo	ts calcolo	Qub calcolo	R c,s,k	R c,b,k	ΔW palo	Qc,s,k/1.25
m	kPa	kPa	kN	kN	kN	kN
1	24.0	68.0	120.0	204.0	45.0	96.0
2	24.0	136.0	240.0	408.0	90.0	192.0
3	24.0	204.0	360.0	612.0	135.0	288.0
4	24.0	272.0	480.0	816.0	180.0	384.0
5	24.0	306.0	540.0	918.0	202.5	432.0
5	24.0	306.0	540.0	918.0	202.5	432.0
5	36.0	340.0	630.0	1020.0	225.0	504.0
6	36.0	408.0	810.0	1224.0	270.0	648.0
7	36.0	444.3	990.0	1332.9	315.0	792.0
8	36.0	480.0	1170.0	1440.0	360.0	936.0
9	36.0	515.7	1350.0	1547.1	405.0	1080.0
10	36.0	551.4	1530.0	1654.3	450.0	1224.0
11	36.0	587.1	1710.0	1761.4	495.0	1368.0
12	36.0	622.9	1890.0	1868.6	540.0	1512.0
13	36.0	658.6	2070.0	1975.7	585.0	1656.0
14	36.0	694.3	2250.0	2082.9	630.0	1800.0
15	36.0	730.0	2430.0	2190.0	675.0	1944.0
16	36.0	740.0	2610.0	2220.0	720.0	2088.0
17	36.0	750.0	2790.0	2250.0	765.0	2232.0
18	36.0	760.0	2970.0	2280.0	810.0	2376.0
19	36.0	770.0	3150.0	2310.0	855.0	2520.0
20	36.0	780.0	3330.0	2340.0	900.0	2664.0
21	36.0	790.0	3510.0	2370.0	945.0	2808.0
21	36.0	790.0	3510.0	2370.0	945.0	2808.0
22	159.1	1141.0	4305.5	3423.0	990.0	3444.4
23	159.1	1492.0	5101.0	4476.0	1035.0	4080.8
24	159.1	1843.0	5896.5	5529.0	1080.0	4717.2
25	159.1	2194.0	6692.0	6582.0	1125.0	5353.6
25	159.1	2194.0	6692.0	6582.0	1125.0	5353.6
26	200.0	2545.0	7692.0	7635.0	1170.0	6153.6
27	200.0	2896.0	8692.0	8688.0	1215.0	6953.6
28	200.0	3247.0	9692.0	9741.0	1260.0	7753.6
29	200.0	3598.0	10692.0	10794.0	1305.0	8553.6
30	200.0	3949.0	11692.0	11847.0	1350.0	9353.6
31	200.0	4300.0	12692.0	12900.0	1395.0	10153.6
32	200.0	4300.0	13692.0	12900.0	1440.0	10953.6
33	200.0	4300.0	14692.0	12900.0	1485.0	11753.6
34	200.0	4300.0	15692.0	12900.0	1530.0	12553.6
35	200.0	4300.0	16692.0	12900.0	1575.0	13353.6
36	200.0	4300.0	17692.0	12900.0	1620.0	14153.6
37	200.0	4300.0	18692.0	12900.0	1665.0	14953.6
38	200.0	4300.0	19692.0	12900.0	1710.0	15753.6
39	200.0	4300.0	20692.0	12900.0	1755.0	16553.6
40	200.0	4300.0	21692.0	12900.0	1800.0	17353.6
41	200.0	4300.0	22692.0	12900.0	1845.0	18153.6
42	200.0	4300.0	23692.0	12900.0	1890.0	18953.6
43	200.0	4300.0	24692.0	12900.0	1935.0	19753.6
44	200.0	4300.0	25692.0	12900.0	1980.0	20553.6
45	200.0	4300.0	26692.0	12900.0	2025.0	21353.6
46	200.0	4300.0	27692.0	12900.0	2070.0	22153.6
47	200.0	4300.0	28692.0	12900.0	2115.0	22953.6
48	200.0	4300.0	29692.0	12900.0	2160.0	23753.6
49	200.0	4300.0	30692.0	12900.0	2205.0	24553.6
50	200.0	4300.0	31692.0	12900.0	2250.0	25353.6
51	200.0	4300.0	32692.0	12900.0	2295.0	26153.6
52	200.0	4300.0	33692.0	12900.0	2340.0	26953.6
53	200.0	4300.0	34692.0	12900.0	2385.0	27753.6
54	200.0	4300.0	35692.0	12900.0	2430.0	28553.6
55	200.0	4300.0	36692.0	12900.0	2475.0	29353.6
56	200.0	4300.0	37692.0	12900.0	2520.0	30153.6
57	200.0	4300.0	38692.0	12900.0	2565.0	30953.6
58	200.0	4300.0	39692.0	12900.0	2610.0	31753.6
59	200.0	4300.0	40692.0	12900.0	2652.0	32553.6
60	200.0	4300.0	41692.0	12900.0	2691.0	33353.6



<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span>   	<b>ITINERARIO NAPOLI – BARI</b>					
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span>   	<b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 56 di 260

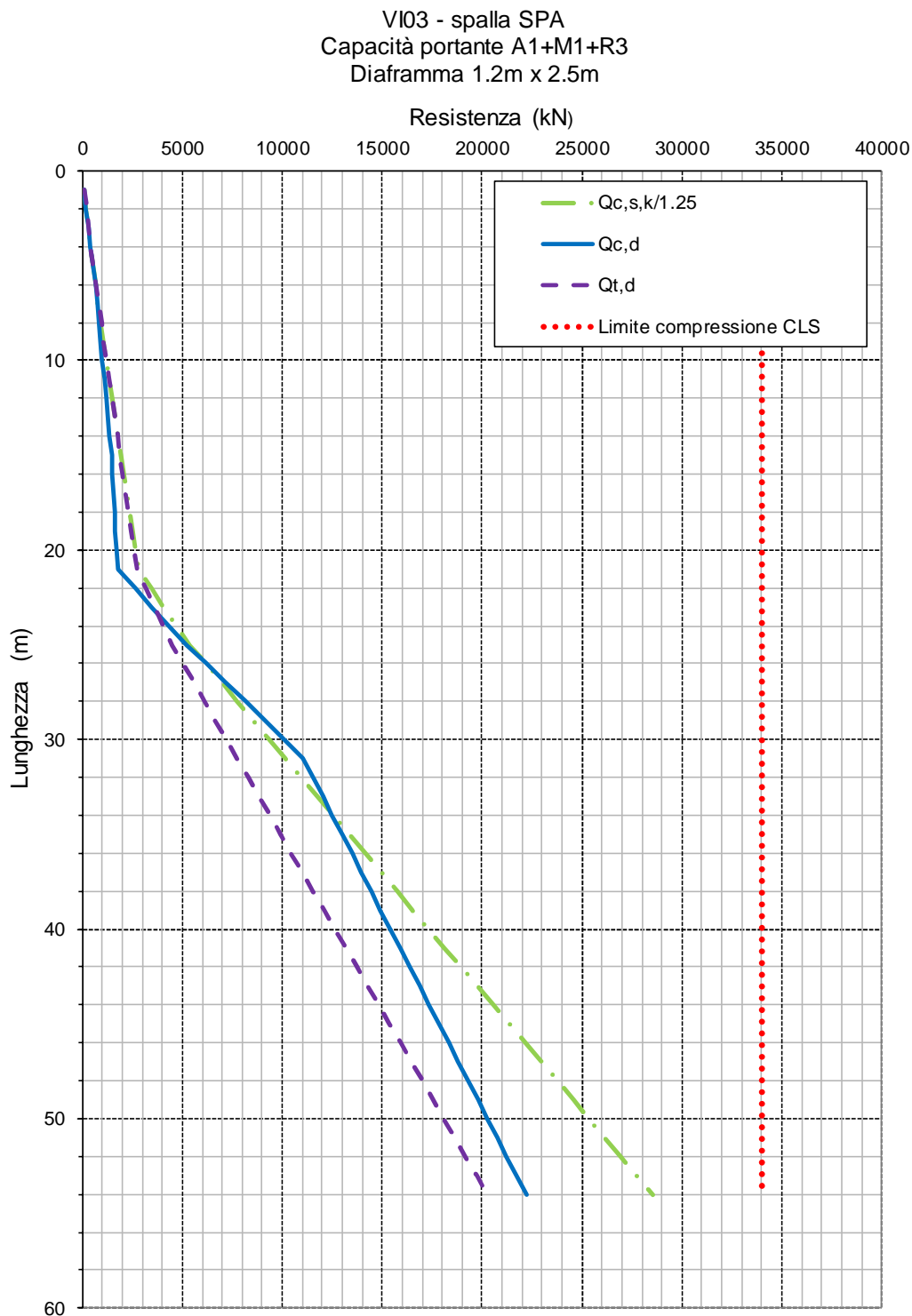


Figura 10-1: Capacità portante del diaframma singolo



<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>																	
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span>   	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 16.6%;">COMMESSA</td> <td style="width: 16.6%;">LOTTO</td> <td style="width: 16.6%;">CODIFICA</td> <td style="width: 16.6%;">DOCUMENTO</td> <td style="width: 16.6%;">REV.</td> <td style="width: 16.6%;">FOGLIO</td> </tr> <tr> <td>IF1N</td> <td>01 E ZZ</td> <td>RG</td> <td>MD0000 001</td> <td>B</td> <td>57 di 260</td> </tr> </table>						COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF1N	01 E ZZ	RG	MD0000 001	B	57 di 260
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO													
IF1N	01 E ZZ	RG	MD0000 001	B	57 di 260													

## 10.2 VERIFICA DEL POZZO DI FONDAZIONE

Le verifiche di tipo geotecnico rispetto ai carichi verticali e orizzontali dei diaframmi che costituiscono il pozzo sono condotte mediante un metodo all'equilibrio elasto-plastico dell'intero blocco diaframmi+terreno in essi incluso, che è in grado di tenere in conto:

- il contributo di resistenza offerto lungo il fusto del pozzo dalla resistenza "passiva" del terreno intorno ai diaframmi e delle resistenze attritive dovute agli sforzi tangenziali;
- il contributo di capacità portante alla base del blocco rigido costituito da diaframmi e terreno.

Nel seguito le verifiche sono state condotte con il codice Pozzi-J, i cui principi di calcolo sono illustrati nella relazione ref. 2) ove si rimanda per criteri e dettagli.

Nel presente caso si illustra il comportamento del pozzo lungo la direzione longitudinale, perché più sollecitata e rappresentativa.

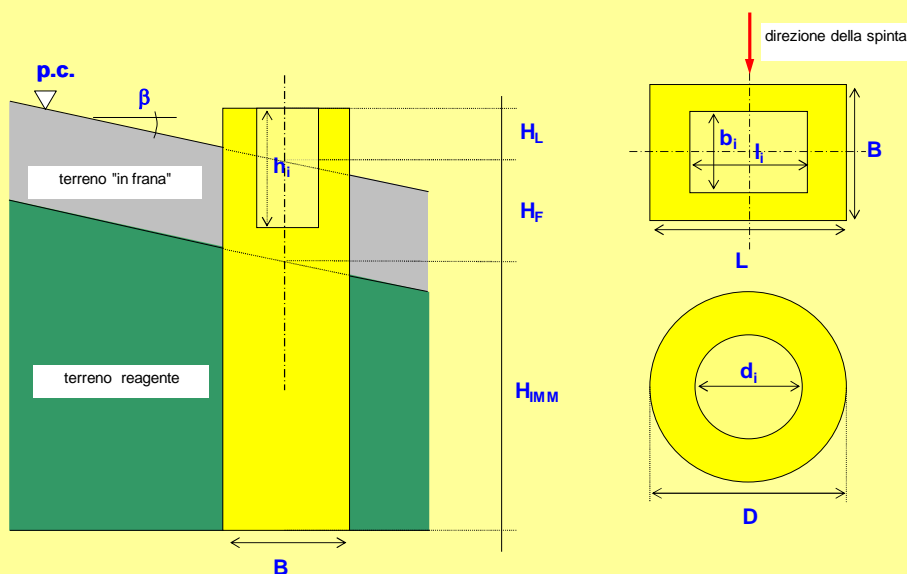
### 10.2.1 Modello Pozzi-J

Di seguito i dati geometrici di fondazione, la stratigrafia di progetto e i carichi di riferimento:

<b>APPALTATORE:</b> Consorzio <b>HirpiniaAV</b> Soci <b>salini impregilo</b> <b>ASTALDI</b>	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>
<b>PROGETTAZIONE:</b> Mandataria <b>ROKSOJL</b> Mandanti <b>NETENGINEERING</b> <b>Alpina</b>	
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	
COMMESSA <b>IF1N</b> LOTTO <b>01 E ZZ</b> CODIFICA <b>RG</b> DOCUMENTO <b>MD0000 001</b> REV. <b>B</b> FOGLIO <b>58 di 260</b>	

## POZZI DI FONDAZIONE O DI STABILIZZAZIONE

Dati geometrici pozzo



### DATI DI INGRESSO

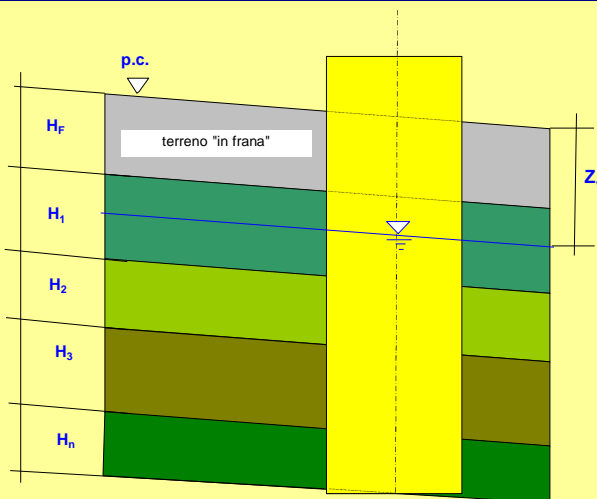
#### Forma del pozzo

		Rettagonale	
<b>B</b>	larghezza della sezione trasversale del pozzo, se rettangolare	15.50	(m)
<b>L</b>	lunghezza della sezione trasversale del pozzo, se rettangolare	18.70	(m)
<b>b<sub>i</sub></b>	larghezza della cavità interna del pozzo, se rettangolare	0.00	(m)
<b>l<sub>i</sub></b>	lunghezza della cavità interna del pozzo, se rettangolare	0.00	(m)
<b>D</b>	diametro del pozzo, se circolare	0.00	(m)
<b>d<sub>i</sub></b>	diametro della cavità interna del pozzo, se circolare	0.00	(m)
<b>h<sub>i</sub></b>	altezza della cavità interna del pozzo da testa pozzo <i>(se assente porre 0)</i>	0.00	(m)
<b>H<sub>L</sub></b>	distanza testa pozzo dal piano campagna <i>(positiva se al di sopra di p.c.)</i>	0.00	(m)
<b>H<sub>F</sub></b>	spessore terreno "in frana"	10.00	(m)
<b>H<sub>IMM</sub></b>	altezza di immersione del pozzo	40.00	(m)
<b>β</b>	inclinazione del piano campagna <i>si introduce nel solo caso in cui si voglia una sicurezza aggiuntiva; l'altezza non reagente è calcolata sul lato di valle del pozzo e non in mezz'aria</i>	0	(°)
<b>Δ<sub>v</sub></b>	altezza conci in cui è suddiviso il pozzo (n° massimo di conci 40)	1.00	(m)
<b>Δ<sub>h</sub></b>	larghezza conci in cui è suddiviso il pozzo	0.25	(m)
<b>α</b>	coefficiente moltiplicativo della superficie laterale del pozzo <i>(il coefficiente, &lt;=1, consente di assumere condizioni più o meno prudentziali in merito alla mobilitazione delle forze di attrito orizzontali sulle superfici laterali del pozzo; per sezioni circolari si suggerisce l'adozione di un valore non superiore a 0.5)</i>	0.40	(-)

Tabella 23: Dati geometrici del pozzo

<b>APPALTATORE:</b> Consorzio <b>HirpiniaAV</b> Soci <b>salini impregilo</b> <b>ASTALDI</b>	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <b>ROKSOJL</b> Mandanti <b>NETENGINEERING</b> <b>Alpina</b>						
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 59 di 260

**POZZI DI FONDAZIONE O DI STABILIZZAZIONE**  
**DATI TERRENO**



**DATI DI INGRESSO**

n° strato	$\Delta H_i$ (m)	$H_{MM,i}$ (m)	legge (*) (-)	modulo elastico			attrito laterale		pressione orizzontale		
				$E_o$ (MPa)	$K_{Eo}$ (MN/m <sup>3</sup> )	$K$ (-)	$\tau_{limite}$ (kPa)	$y_{crit}$ (m)	legge (**) (-)	$P_{LM}$ (kPa)	$K_{P,LM}$ (kN/m <sup>3</sup> )
1	5.00	5.00	0	45		20	20	0.02	0	90	
2	6.00	11.00	0	45		20	20	0.02	0	100	
3	4.00	15.00	0	395		20	100	0.02	0	950	
4	10.00	25.00	0	725		20	100	0.02	0	6000	
5	10.00	35.00	0	725		20	100	0.02	0	6650	
6	10.00	45.00	0	725		20	100	0.02	0	7100	
7	10.00	55.00	0	725		20	100	0.02	0	7450	
8	10.00	65.00	0	725		20	100	0.02	0	7700	
$Q_{LM}$	portata unitaria di base	0.5	(MPa)	$N_x$ (1 - 2.5)			coeff. moltiplicativo rigidezza laterale		2.5		
$Z_w$	profondità falda da p.c.	0	(m)	$N_y$ (1 - 2.5)			coeff. moltiplicativo rigidezza di base		1.5		

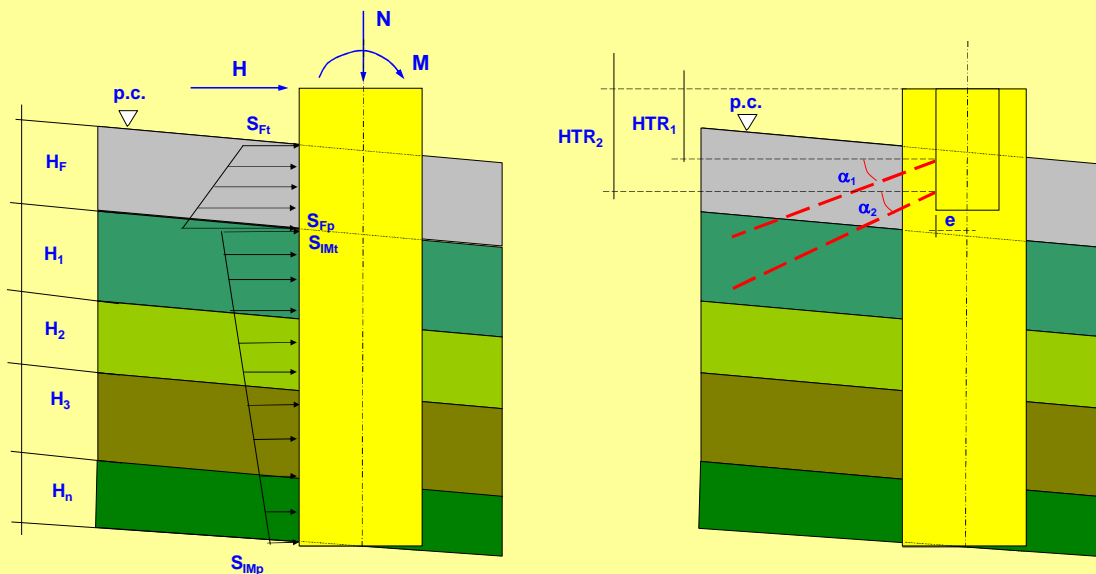
  

$\Delta H_i$	=	altezza strato i-esimo
$H_{MM,i}$	=	spessore progressivo di immersione nello strato reagente
$\gamma$	=	peso di volume naturale
legge (*)	=	0 $E_o = cost$ 1 $E_o = K_{Eo} \cdot z$ 2 $E_o = E_{o,0} + K_{Eo} \cdot z$
50	=	modulo di Yuong a piccole deformazioni
$K_{Eo}$	=	gradiente del modulo
$K$	=	coefficiente della legge di degrado del modulo = 20 - 50
$z$	=	profondità da p.c.
$\tau_{LM}$	=	attrito laterale unitario limite
$y_{crit}$	=	spostamento cui corrisponde la mobilitazione di $\tau_{LM}$
legge (**)	=	0 $P_{LM} = cost$ 1 $P_{LM} = K_{P,LM} \cdot z$ 2 $P_{LM} = P_{LM,0} + K_{P,LM} \cdot z$
$P_{LM}$	=	pressione orizzontale unitaria limite
$K_{P,LM}$	=	gradiente del modulo

**Tabella 24: Dati stratigrafici di input e parametri geotecnici del pozzo**

<b>APPALTATORE:</b> Consorzio <b>HirpiniaAV</b> Soci <b>salini impregio</b> <b>ASTALDI</b>	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <b>ROKSOJL</b> Mandanti <b>NETENGINEERING</b> <b>Alpina</b>						
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 60 di 260

**POZZI DI FONDAZIONE O DI STABILIZZAZIONE**  
**CARICHI - TIRANTI**



**DATI DI INGRESSO**

**CARICHI A TESTA POZZO**

<b>N</b>	carico assiale	50,302	(kN)
<b>M</b>	momento flettente	46,333	(kNm)
<b>T</b>	taglio	24,927	(kN)

**SPINTA COLTRE IN FRANA**

*i valori da inserire nel seguito sono quelli delle spinte agenti sull'intera larghezza del pozzo, in corrispondenza della sommità e alla base dello strato spingente*

<b>S<sub>Ft</sub></b>	spinta alla sommità dello strato spingente	4152	(kN/m)
<b>S<sub>Fp</sub></b>	spinta al piede dello strato spingente	4152	(kN/m)

**CARICO DISTRIBUITO TRATTO IMMORSATO (simulazione spinta asimmetrica)**

<b>S<sub>IMt</sub></b>	spinta alla sommità del tratto immerso	0	(kN/m)
<b>S<sub>IMp</sub></b>	spinta al piede del tratto immerso	0	(kN/m)

**PESO SPECIFICO DEL POZZO**

<b>γ<sub>cls</sub></b>	peso specifico del pozzo (porre 0 per trascurarne il contributo)	24.0	(kN/m <sup>3</sup> )
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**Tabella 25: Azioni SLV applicate al pozzo**

<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 61 di 260

## 10.2.2 Verifiche capacità portante verticale del pozzo

### POZZI DI FONDAZIONE O DI STABILIZZAZIONE SOLUZIONE

#### CEDIMENTI E PRESSIONI ALLA BASE DEL POZZO

DISTANZA DAL LATO DI MONTE (m)	SPOSTAMENTO VERTICALE (positivo verso il basso) (cm)	PRESSIONE VERTICALE (kPa)	P/P <sub>u</sub> (%)	E/E <sub>0</sub> (%)
0.13	1.2	194	38.9	11.4
0.38	1.2	195	39.2	11.3
0.63	1.3	196	39.5	11.2
0.88	1.3	198	39.8	11.2
1.13	1.3	199	40.0	11.1
1.38	1.3	201	40.3	11.0
1.63	1.3	202	40.6	11.0
1.88	1.4	203	40.9	10.9
2.13	1.4	205	41.1	10.8
2.38	1.4	206	41.4	10.8
2.63	1.4	207	41.7	10.7
2.88	1.4	209	41.9	10.7
3.13	1.5	210	42.2	10.6
3.38	1.5	211	42.5	10.5
3.63	1.5	213	42.7	10.5
3.88	1.5	214	43.0	10.4
4.13	1.5	215	43.2	10.4
4.38	1.6	216	43.5	10.3
4.63	1.6	218	43.7	10.3
4.88	1.6	219	44.0	10.2
5.13	1.6	220	44.2	10.2
5.38	1.6	221	44.4	10.1
5.63	1.7	222	44.7	10.1
5.88	1.7	224	44.9	10.0
6.13	1.7	225	45.1	10.0
6.38	1.7	226	45.4	9.9
6.63	1.7	227	45.6	9.9
6.88	1.8	228	45.8	9.8
7.13	1.8	229	46.1	9.8
7.38	1.8	230	46.3	9.7
7.63	1.8	231	46.5	9.7
7.88	1.8	233	46.7	9.7
8.13	1.9	234	47.0	9.6
8.38	1.9	235	47.2	9.6
8.63	1.9	236	47.4	9.5
8.88	1.9	237	47.6	9.5
9.13	1.9	238	47.8	9.5
9.38	2.0	239	48.0	9.4
9.63	2.0	240	48.3	9.4
9.88	2.0	241	48.5	9.4
10.13	2.0	242	48.7	9.3
10.38	2.0	243	48.9	9.3
10.63	2.1	244	49.1	9.2
10.88	2.1	245	49.3	9.2
11.13	2.1	246	49.5	9.2
11.38	2.1	247	49.7	9.1
11.63	2.1	248	49.9	9.1
11.88	2.2	249	50.1	9.1
12.13	2.2	250	50.3	9.0
12.38	2.2	251	50.5	9.0
12.63	2.2	252	50.7	9.0
12.88	2.2	253	50.9	8.9
13.13	2.3	254	51.1	8.9
13.38	2.3	255	51.3	8.9
13.63	2.3	256	51.5	8.9
13.88	2.3	257	51.7	8.8
14.13	2.3	258	51.8	8.8
14.38	2.4	259	52.0	8.8
14.63	2.4	260	52.2	8.7
14.88	2.4	261	52.4	8.7
15.13	2.4	262	52.6	8.7
15.38	2.4	263	52.8	8.7

Tabella 26: Verifiche di capacità portante verticale del pozzo – direzione longitudinale

APPALTATORE: Consorzio <b>HirpiniaAV</b> Soci <b>salini impregilo</b> <b>ASTALDI</b>		<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
PROGETTAZIONE: Mandataria <b>ROKSOJL</b> Mandanti <b>NETENGINEERING</b> <b>Alpina</b>							
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B		COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 62 di 260

### 10.2.3 Verifiche di capacità portante orizzontale del pozzo

Le verifiche di tipo geotecnico nei confronti della capacità portante del pozzo per i carichi orizzontali possono essere ritenute soddisfatte sia per i carichi verticali, sia per quelli orizzontali, se risulta:

$$p/p_u \text{ e } \tau/\tau_{lim} \leq 100\%$$

al raggiungimento dei carichi massimi di progetto per la combinazione di carico considerata e secondo quanto esposto nel documento al ref. 2).

## POZZI DI FONDAZIONE O DI STABILIZZAZIONE SOLUZIONE

### REAZIONE DEL TERRENO

PROFONDITA' DA TESTA POZZO (m)	STRATO (n°)	Poriz (kPa)	P/Pu (%)	E/Eo (%)	$\tau_h/\tau_u$ (%)	$\tau_{v, monte}/\tau_u$ (%)	$\tau_{v, valle}/\tau_u$ (%)
0.00	NON REAGENTE						
1.00	NON REAGENTE						
2.00	NON REAGENTE						
3.00	NON REAGENTE						
4.00	NON REAGENTE						
5.00	NON REAGENTE						
6.00	NON REAGENTE						
7.00	NON REAGENTE						
8.00	NON REAGENTE						
9.00	NON REAGENTE						
10.00	NON REAGENTE						
10.50	1	35.2	39.1	11.3	100.0	60.9	100.0
11.50	1	34.6	38.4	11.5	100.0	60.9	100.0
12.50	1	33.9	37.6	11.7	100.0	60.9	100.0
13.50	1	33.2	36.9	11.9	100.0	60.9	100.0
14.50	1	32.5	36.1	12.2	96.6	60.9	100.0
15.50	2	33.4	33.4	13.0	92.7	60.9	100.0
16.50	2	32.6	32.6	13.3	88.7	60.9	100.0
17.50	2	31.8	31.8	13.6	84.8	60.9	100.0
18.50	2	31.0	31.0	13.9	80.8	60.9	100.0
19.50	2	30.2	30.2	14.2	76.9	60.9	100.0
20.50	2	29.4	29.4	14.6	72.9	60.9	100.0
21.50	3	259.3	27.3	15.5	69.0	60.9	100.0
22.50	3	251.2	26.4	15.9	65.1	60.9	100.0
23.5	3	242.8	25.6	16.4	61.1	60.9	100.0
24.5	3	234.1	24.6	16.9	57.2	60.9	100.0
25.5	4	706.8	11.8	29.8	53.2	60.9	100.0
26.5	4	675.4	11.3	30.8	49.3	60.9	100.0
27.5	4	642.8	10.7	31.8	45.3	60.9	100.0
28.5	4	608.8	10.1	33.0	41.4	60.9	100.0
29.5	4	573.2	9.6	34.4	37.4	60.9	100.0
30.5	4	535.7	8.9	35.9	33.5	60.9	100.0
31.5	4	496.1	8.3	37.7	29.5	60.9	100.0
32.5	4	453.9	7.6	39.8	25.6	60.9	100.0
33.5	4	408.5	6.8	42.3	21.7	60.9	100.0
34.5	4	359.0	6.0	45.5	17.7	60.9	100.0
35.5	5	314.8	4.7	51.4	13.8	60.9	100.0
36.5	5	249.6	3.8	57.1	9.8	60.9	100.0
37.5	5	172.0	2.6	65.9	5.9	60.9	100.0
38.5	5	71.0	1.1	82.4	1.9	60.9	100.0
39.0	5	0.7	0.0	99.8	0.0	60.9	100.0
39.5	5	73.5	1.1	81.9	2.0	60.9	100.0
40.5	5	174.3	2.6	65.6	6.0	60.9	100.0
41.5	5	251.4	3.8	56.9	9.9	60.9	100.0
42.5	5	316.4	4.8	51.2	13.9	60.9	100.0
43.5	5	373.6	5.6	47.1	17.8	60.9	100.0
44.5	5	425.3	6.4	43.9	21.8	60.9	100.0
45.5	6	484.3	6.8	42.3	25.7	60.9	100.0
46.5	6	529.9	7.5	40.1	29.6	60.9	100.0
47.5	6	572.8	8.1	38.3	33.6	60.9	100.0
48.5	6	613.3	8.6	36.7	37.5	60.9	100.0
49.5	6	651.8	9.2	35.3	41.5	60.9	100.0

Tabella 27: Verifiche di capacità portante orizzontale del pozzo – direzione longitudinale

<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>																	
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span>   	<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 16.6%;">COMMESSA</td> <td style="width: 16.6%;">LOTTO</td> <td style="width: 16.6%;">CODIFICA</td> <td style="width: 16.6%;">DOCUMENTO</td> <td style="width: 16.6%;">REV.</td> <td style="width: 16.6%;">FOGLIO</td> </tr> <tr> <td>IF1N</td> <td>01 E ZZ</td> <td>RG</td> <td>MD0000 001</td> <td>B</td> <td>63 di 260</td> </tr> </table>						COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF1N	01 E ZZ	RG	MD0000 001	B	63 di 260
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO													
IF1N	01 E ZZ	RG	MD0000 001	B	63 di 260													
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>																		

### 10.2.4 Risultati Pozzi-J

Nei paragrafi §10.2.2 e §10.2.3 sono sintetizzati i principali risultati dell'analisi del pozzo per la pila in esame.

Infatti, per le combinazioni di carico sismiche SLV, si ha una percentuale di mobilitazione delle reazioni lungo il fusto inferiore al 50% nella direzione longitudinale (mobilitazioni, escluse le coltri, dell'ordine di 260.0 kPa - 30÷35% - direzione longitudinale per la massima azione di taglio).

Per la base, tutta reagente, non si evidenziano settori distaccati; i rapporti di mobilitazione alla base sono inferiori al 50÷55 %, con pressioni di base massime  $p_b = 265$  kPa.

In relazione alle basse percentuali delle resistenze mobilitate le verifiche di stabilità globali sono ampiamente soddisfatte.

APPALTATORE: Conorzio Soci HIRPINIA AV SALINI IMPREGILO S.P.A. ASTALDI S.P.A.	<b>ITINERARIO NAPOLI – BARI</b>					
PROGETTAZIONE: Mandataria Mandanti ROCKSOIL S.P.A. NET ENGINEERING S.P.A. ALPINA S.P.A.	<b>RADDOPPIO TRATTA APICE – ORSARA I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B	COMMESSA IF28	LOTTO 01	CODIFICA E ZZ CL	DOCUMENTO VI0303 001	REV. B	FOGLIO 64 di 260

### 10.2.5 Analisi push-over per la determinazione del carico limite

Una seconda valutazione di capacità limite dei pozzi di fondazione è effettuata mediante l'elaborazione di una curva "push over"; l'analisi è sempre condotta con il programma Pozzi-J.

I carichi applicati sono fatti crescere fino a quando è evidente il cambiamento di comportamento del pozzo da lineare a non lineare/plastico, in corrispondenza della completa plasticizzazione alla base del pozzo e lungo il fusto: oltre tale livello di carico non sono più possibili incrementi di sollecitazione, se non a prezzo di deformazioni indefinite. Tale carico orizzontale rappresenta il valore  $H_{lim}$  ricercato per valutare il grado di sicurezza della fondazione a pozzo, rispetto ai massimi carichi applicati nella combinazione considerata.

Nella seguente Figura 10-2 è illustrata la curva push-over ottenuta per il pozzo in oggetto al crescere della coppia H/M applicata alla testa dello stesso.

Il taglio massimo agente è pari a  $T_{longSLV} = 24'927$  kN.

La verifica a capacità portante orizzontale risulta soddisfatta, poiché il carico limite risulta superiore al valore di progetto.

Per ulteriori considerazioni circa le analisi di capacità portante dei pozzi al variare della lunghezza (50/60m) e delle condizioni di carico si rimanda alla relazione IF2801EZZCLVI0303002.

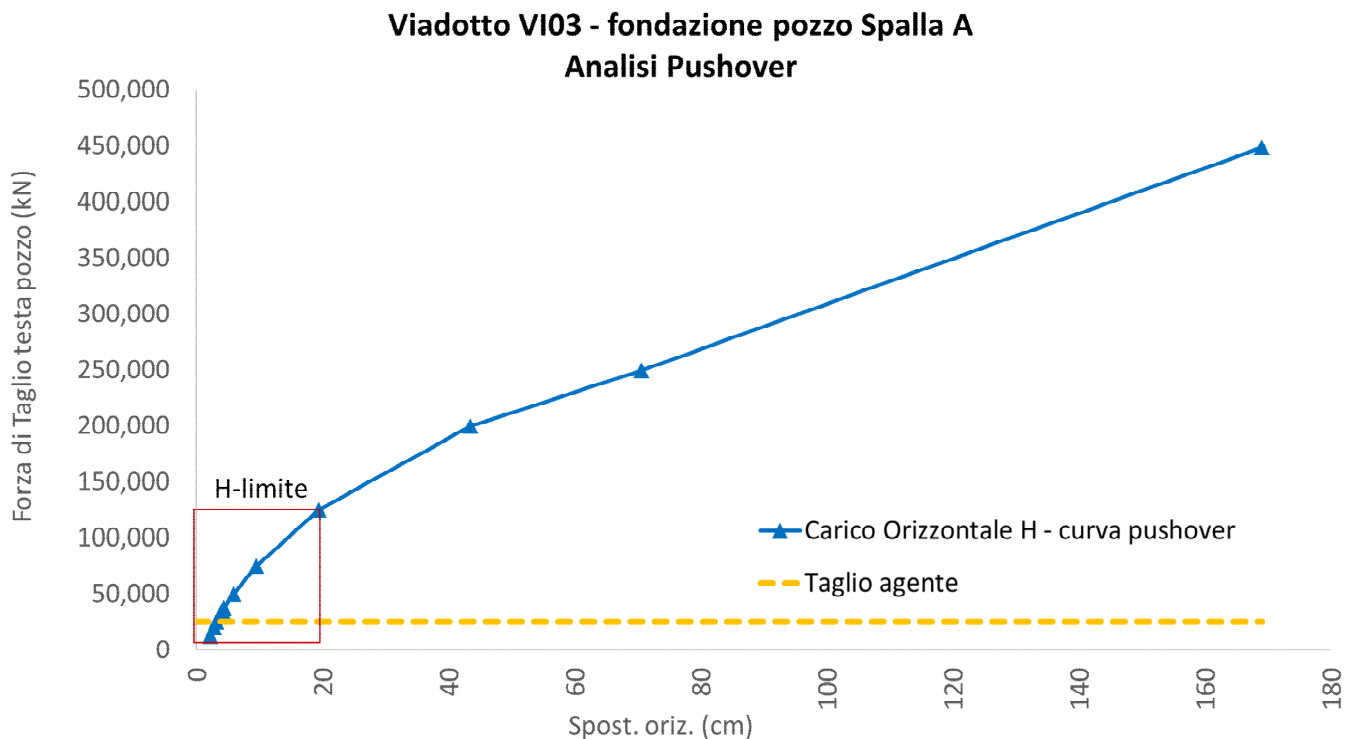


Figura 10-2: Analisi push-over pozzo



<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>																	
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span>   	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 16.6%;">COMMESSA</td> <td style="width: 16.6%;">LOTTO</td> <td style="width: 16.6%;">CODIFICA</td> <td style="width: 16.6%;">DOCUMENTO</td> <td style="width: 16.6%;">REV.</td> <td style="width: 16.6%;">FOGLIO</td> </tr> <tr> <td>IF1N</td> <td>01 E ZZ</td> <td>RG</td> <td>MD0000 001</td> <td>B</td> <td>65 di 260</td> </tr> </table>						COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF1N	01 E ZZ	RG	MD0000 001	B	65 di 260
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO													
IF1N	01 E ZZ	RG	MD0000 001	B	65 di 260													
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>																		

## 11 VERIFICA DELLO SCAVO PROVVISORIO ALL'INTERNO DEI POZZI DI FONDAZIONE

Al fine di assicurare la necessaria resistenza flessionale e tagliante dei diaframmi che costituiscono il pozzo di fondazione della spalla A in esame, nella porzione soggetta alla spinta del materiale potenzialmente instabile, è previsto lo scavo all'interno degli stessi e la sostituzione del terreno con calcestruzzo, in modo tale da realizzare un monolite fino alla profondità di 12.0 m da intradosso plinto.

Lo scavo dei tre settori in cui è diviso ogni pozzo avviene per fasi successive, utilizzando telai rettangolari chiusi in carpenteria metallica formati da:

- doppi profilati HEB 360 lungo il perimetro interno di ciascun settore;
- tubolari fi 355.8 sp 20 mm quali puntoni di contrasto della carpenteria metallica disposta sui lati lunghi del pozzo.

Si prevede di realizzare n° 4 ordini di telai puntonati, ad ogni ribasso dello scavo sarà messo in opera il corrispondente ordine di puntoni.

Per maggiori dettagli si rimanda al capitolo di pertinenza dell'elaborato IF2801EZZCLVI0303002.

<b>APPALTATORE:</b> <u>Consorzio</u> 	<p style="text-align: center;"><b>ITINERARIO NAPOLI – BARI</b></p> <p style="text-align: center;"><b>RADDOPPIO TRATTA APICE – ORSARA</b></p> <p style="text-align: center;"><b>I LOTTO FUNZIONALE APICE – HIRPINIA</b></p>						
<b>PROGETTAZIONE:</b> <u>Mandataria</u> 							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	<table border="0" style="width: 100%;"> <tr> <td style="text-align: center;">COMMESSA IF1N</td> <td style="text-align: center;">LOTTO 01 E ZZ</td> <td style="text-align: center;">CODIFICA RG</td> <td style="text-align: center;">DOCUMENTO MD0000 001</td> <td style="text-align: center;">REV. B</td> <td style="text-align: center;">FOGLIO 66 di 260</td> </tr> </table>	COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 66 di 260
COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 66 di 260		

## 12 STIMA INCIDENZE DI ARMATURA DIAFRAMMI E PLINTI DI FONDAZIONE

Per le incidenze di armatura dei diaframmi e dei plinti di fondazione, considerata anche la complessità del contesto geologico e geotecnico di riferimento, sono confermati i valori previsti nel Progetto Definitivo.

APPALTATORE: <u>Consorzio</u> <u>Soci</u> HIRPINIA AV                      SALINI IMPREGILO S.P.A.    ASTALDI S.P.A.	<b>ITINERARIO NAPOLI – BARI</b>					
PROGETTAZIONE: <u>Mandatario</u> <u>Mandanti</u> ROCKSOIL S.P.A.                      NET ENGINEERING S.P.A.    ALPINA S.P.A.	<b>RADDOPPIO TRATTA APICE – ORSARA I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B	COMMESSA IF28	LOTTO 01	CODIFICA E ZZ CL	DOCUMENTO VI0303 001	REV. B	FOGLIO 67 di 260

## 13 ALLEGATO: TABULATI GROUP

### 13.1 PILA SLE

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=====
GROUP for Windows, Version 2016.10.13

Serial Number : 228330872

Analysis of A Group of Piles
Subjected to Axial and Lateral Loading

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All Rights Reserved

=====
-----
Time and Date of Analysis
-----

Date: February 11, 2020    Time: 16:09:48

*****    COMPUTATION RESULTS    *****

New Group

*****    LOAD CASES RESULTS    *****

LOAD CASE :    1
CASE NAME : Load Case
LOAD TYPE : Special, Sp

* TABLE L *    COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, KN    HOR. LOAD Y, KN    HOR. LOAD Z, KN
45856.2           -34618.8           819.782

MOMENT X , KN- M    MOMENT Y, KN- M    MOMENT Z, KN- M
310.376            7476.06            -2.43379E+05

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL , M            HORIZONTAL Y, M            HORIZONTAL Z, M
4.16991E-04            -2.28649E-03            7.82827E-05

ANGLE ROT. X,RAD            ANGLE ROT. Y,RAD            ANGLE ROT. Z,RAD
3.25683E-07            3.16783E-06            2.93956E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM
-----

* PILE TOP DISPLACEMENTS *

PILE GROUP    DISP. X, M    DISP. Y, M    DISP. Z, M    ROT. X,RAD    ROT. Y,RAD    ROT. Z,RAD
*****    *****    *****    *****    *****    *****    *****
1    2.3222E-04    -2.2891E-03    8.0611E-05    3.2568E-07    3.1678E-06    2.9396E-05
2    2.2360E-04    -2.2882E-03    8.0611E-05    3.2568E-07    3.1678E-06    2.9396E-05
3    2.1521E-04    -2.2874E-03    8.0611E-05    3.2568E-07    3.1678E-06    2.9396E-05
4    2.0681E-04    -2.2865E-03    8.0611E-05    3.2568E-07    3.1678E-06    2.9396E-05
5    1.9842E-04    -2.2856E-03    8.0611E-05    3.2568E-07    3.1678E-06    2.9396E-05

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APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandatario

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	68 di 260

6	1.9002E-04	-2.2848E-03	8.0611E-05	3.2568E-07	3.1678E-06	2.9396E-05
7	1.8141E-04	-2.2839E-03	8.0611E-05	3.2568E-07	3.1678E-06	2.9396E-05
8	6.5257E-04	-2.2891E-03	7.5954E-05	3.2568E-07	3.1678E-06	2.9396E-05
9	6.4396E-04	-2.2882E-03	7.5954E-05	3.2568E-07	3.1678E-06	2.9396E-05
10	6.3556E-04	-2.2874E-03	7.5954E-05	3.2568E-07	3.1678E-06	2.9396E-05
11	6.2717E-04	-2.2865E-03	7.5954E-05	3.2568E-07	3.1678E-06	2.9396E-05
12	6.1877E-04	-2.2856E-03	7.5954E-05	3.2568E-07	3.1678E-06	2.9396E-05
13	6.1038E-04	-2.2848E-03	7.5954E-05	3.2568E-07	3.1678E-06	2.9396E-05
14	6.0176E-04	-2.2839E-03	7.5954E-05	3.2568E-07	3.1678E-06	2.9396E-05
15	2.3348E-04	-2.2836E-03	8.0009E-05	3.2568E-07	3.1678E-06	2.9396E-05
16	3.1137E-04	-2.2836E-03	7.9146E-05	3.2568E-07	3.1678E-06	2.9396E-05
17	3.8927E-04	-2.2836E-03	7.8283E-05	3.2568E-07	3.1678E-06	2.9396E-05
18	4.6717E-04	-2.2836E-03	7.7420E-05	3.2568E-07	3.1678E-06	2.9396E-05
19	5.4507E-04	-2.2836E-03	7.6557E-05	3.2568E-07	3.1678E-06	2.9396E-05
20	2.8891E-04	-2.2893E-03	8.0009E-05	3.2568E-07	3.1678E-06	2.9396E-05
21	3.6681E-04	-2.2893E-03	7.9146E-05	3.2568E-07	3.1678E-06	2.9396E-05
22	4.4471E-04	-2.2893E-03	7.8283E-05	3.2568E-07	3.1678E-06	2.9396E-05
23	5.2261E-04	-2.2893E-03	7.7420E-05	3.2568E-07	3.1678E-06	2.9396E-05
24	6.0051E-04	-2.2893E-03	7.6557E-05	3.2568E-07	3.1678E-06	2.9396E-05
25	2.5280E-04	-1.8741E-03	3.5659E-05	3.2568E-07	3.1678E-06	2.9396E-05
26	3.3070E-04	-1.8741E-03	3.4796E-05	3.2568E-07	3.1678E-06	2.9396E-05
27	4.0860E-04	-1.8741E-03	3.3933E-05	3.2568E-07	3.1678E-06	2.9396E-05
28	4.8649E-04	-1.8741E-03	3.3070E-05	3.2568E-07	3.1678E-06	2.9396E-05
29	5.6439E-04	-1.8741E-03	3.2207E-05	3.2568E-07	3.1678E-06	2.9396E-05
30	2.6959E-04	-1.8758E-03	3.5659E-05	3.2568E-07	3.1678E-06	2.9396E-05
31	3.4749E-04	-1.8758E-03	3.4796E-05	3.2568E-07	3.1678E-06	2.9396E-05
32	4.2539E-04	-1.8758E-03	3.3933E-05	3.2568E-07	3.1678E-06	2.9396E-05
33	5.0328E-04	-1.8758E-03	3.3070E-05	3.2568E-07	3.1678E-06	2.9396E-05
34	5.8118E-04	-1.8758E-03	3.2207E-05	3.2568E-07	3.1678E-06	2.9396E-05
MINIMUM	1.8141E-04	-2.2893E-03	3.2207E-05	3.2568E-07	3.1678E-06	2.9396E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.5257E-04	-1.8741E-03	8.0611E-05	3.2568E-07	3.1678E-06	2.9396E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
1	681.75	-643.86	39.986	0.2646	-155.62	-2103.2
2	656.45	-643.68	39.991	0.2646	-155.63	-2102.5
3	631.81	-643.51	39.996	0.2646	-155.64	-2101.8
4	607.16	-643.33	40.000	0.2646	-155.66	-2101.1
5	582.52	-643.15	40.005	0.2646	-155.67	-2100.4
6	557.87	-642.98	40.010	0.2646	-155.68	-2099.8
7	532.57	-642.80	40.014	0.2646	-155.69	-2099.0
8	1915.8	-643.57	37.192	0.2646	-143.45	-2103.3
9	1890.5	-643.38	37.197	0.2646	-143.46	-2102.6
10	1865.9	-643.21	37.201	0.2646	-143.47	-2101.9
11	1841.2	-643.03	37.205	0.2646	-143.48	-2101.2
12	1816.6	-642.86	37.210	0.2646	-143.49	-2100.5
13	1792.0	-642.68	37.214	0.2646	-143.51	-2099.8
14	1766.7	-642.50	37.219	0.2646	-143.52	-2099.1
15	685.44	-1128.8	18.781	0.2646	-57.729	-4872.7
16	914.13	-1128.8	18.546	0.2646	-56.939	-4872.7
17	1142.8	-1128.8	18.310	0.2646	-56.149	-4872.7
18	1371.5	-1128.7	18.074	0.2646	-55.359	-4872.8
19	1600.2	-1128.7	17.838	0.2646	-54.569	-4872.8
20	848.19	-1130.9	18.765	0.2646	-57.696	-4883.4
21	1076.9	-1130.9	18.530	0.2646	-56.907	-4883.4
22	1305.6	-1130.8	18.294	0.2646	-56.117	-4883.4
23	1534.3	-1130.8	18.058	0.2646	-55.327	-4883.4
24	1763.0	-1130.7	17.823	0.2646	-54.538	-4883.5
25	998.81	-1431.2	10.314	0.1742	-23.855	-5492.6
26	1306.6	-1431.1	9.9737	0.1742	-22.851	-5492.6
27	1614.4	-1431.1	9.6336	0.1742	-21.847	-5492.6
28	1922.1	-1431.0	9.2935	0.1742	-20.843	-5492.6
29	2229.9	-1430.9	8.9535	0.1742	-19.839	-5492.5
30	1065.1	-1432.3	10.311	0.1742	-23.850	-5497.7
31	1372.9	-1432.3	9.9707	0.1742	-22.846	-5497.7
32	1680.7	-1432.2	9.6307	0.1742	-21.842	-5497.7
33	1988.5	-1432.2	9.2907	0.1742	-20.838	-5497.6
34	2296.3	-1432.1	8.9508	0.1742	-19.835	-5497.6
MINIMUM	532.57	-1432.3	8.9508	0.1742	-155.69	-5497.7
Pile N.	7	30	34	25	7	30
MAXIMUM	2296.3	-642.50	40.014	0.2646	-19.835	-2099.0
Pile N.	34	14	7	1	34	7

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
1	2.3222E-04	-2.2891E-03	8.0611E-05	3.2568E-07	3.1678E-06	2.9396E-05

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandatario

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	69 di 260

2	2.2360E-04	-2.2882E-03	8.0611E-05	3.2568E-07	3.1678E-06	2.9396E-05
3	2.1521E-04	-2.2874E-03	8.0611E-05	3.2568E-07	3.1678E-06	2.9396E-05
4	2.0681E-04	-2.2865E-03	8.0611E-05	3.2568E-07	3.1678E-06	2.9396E-05
5	1.9842E-04	-2.2856E-03	8.0611E-05	3.2568E-07	3.1678E-06	2.9396E-05
6	1.9002E-04	-2.2848E-03	8.0611E-05	3.2568E-07	3.1678E-06	2.9396E-05
7	1.8141E-04	-2.2839E-03	8.0611E-05	3.2568E-07	3.1678E-06	2.9396E-05
8	6.5257E-04	-2.2891E-03	7.5954E-05	3.2568E-07	3.1678E-06	2.9396E-05
9	6.4396E-04	-2.2882E-03	7.5954E-05	3.2568E-07	3.1678E-06	2.9396E-05
10	6.3556E-04	-2.2874E-03	7.5954E-05	3.2568E-07	3.1678E-06	2.9396E-05
11	6.2717E-04	-2.2865E-03	7.5954E-05	3.2568E-07	3.1678E-06	2.9396E-05
12	6.1877E-04	-2.2856E-03	7.5954E-05	3.2568E-07	3.1678E-06	2.9396E-05
13	6.1038E-04	-2.2848E-03	7.5954E-05	3.2568E-07	3.1678E-06	2.9396E-05
14	6.0176E-04	-2.2839E-03	7.5954E-05	3.2568E-07	3.1678E-06	2.9396E-05
15	2.3348E-04	-2.2836E-03	8.0009E-05	3.2568E-07	3.1678E-06	2.9396E-05
16	3.1137E-04	-2.2836E-03	7.9146E-05	3.2568E-07	3.1678E-06	2.9396E-05
17	3.8927E-04	-2.2836E-03	7.8283E-05	3.2568E-07	3.1678E-06	2.9396E-05
18	4.6717E-04	-2.2836E-03	7.7420E-05	3.2568E-07	3.1678E-06	2.9396E-05
19	5.4507E-04	-2.2836E-03	7.6557E-05	3.2568E-07	3.1678E-06	2.9396E-05
20	2.8891E-04	-2.2893E-03	8.0009E-05	3.2568E-07	3.1678E-06	2.9396E-05
21	3.6681E-04	-2.2893E-03	7.9146E-05	3.2568E-07	3.1678E-06	2.9396E-05
22	4.4471E-04	-2.2893E-03	7.8283E-05	3.2568E-07	3.1678E-06	2.9396E-05
23	5.2261E-04	-2.2893E-03	7.7420E-05	3.2568E-07	3.1678E-06	2.9396E-05
24	6.0051E-04	-2.2893E-03	7.6557E-05	3.2568E-07	3.1678E-06	2.9396E-05
25	2.5280E-04	-1.8741E-03	3.5659E-05	3.2568E-07	3.1678E-06	2.9396E-05
26	3.3070E-04	-1.8741E-03	3.4796E-05	3.2568E-07	3.1678E-06	2.9396E-05
27	4.0860E-04	-1.8741E-03	3.3933E-05	3.2568E-07	3.1678E-06	2.9396E-05
28	4.8649E-04	-1.8741E-03	3.3070E-05	3.2568E-07	3.1678E-06	2.9396E-05
29	5.6439E-04	-1.8741E-03	3.2207E-05	3.2568E-07	3.1678E-06	2.9396E-05
30	2.6959E-04	-1.8758E-03	3.5659E-05	3.2568E-07	3.1678E-06	2.9396E-05
31	3.4749E-04	-1.8758E-03	3.4796E-05	3.2568E-07	3.1678E-06	2.9396E-05
32	4.2539E-04	-1.8758E-03	3.3933E-05	3.2568E-07	3.1678E-06	2.9396E-05
33	5.0328E-04	-1.8758E-03	3.3070E-05	3.2568E-07	3.1678E-06	2.9396E-05
34	5.8118E-04	-1.8758E-03	3.2207E-05	3.2568E-07	3.1678E-06	2.9396E-05
MINIMUM	1.8141E-04	-2.2893E-03	3.2207E-05	3.2568E-07	3.1678E-06	2.9396E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.5257E-04	-1.8741E-03	8.0611E-05	3.2568E-07	3.1678E-06	2.9396E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	681.75	-643.86	39.986	0.2646	-155.62	-2103.2
2	656.45	-643.68	39.991	0.2646	-155.63	-2102.5
3	631.81	-643.51	39.996	0.2646	-155.64	-2101.8
4	607.16	-643.33	40.000	0.2646	-155.66	-2101.1
5	582.52	-643.15	40.005	0.2646	-155.67	-2100.4
6	557.87	-642.98	40.010	0.2646	-155.68	-2099.8
7	532.57	-642.80	40.014	0.2646	-155.69	-2099.0
8	1915.8	-643.57	37.192	0.2646	-143.45	-2103.3
9	1890.5	-643.38	37.197	0.2646	-143.46	-2102.6
10	1865.9	-643.21	37.201	0.2646	-143.47	-2101.9
11	1841.2	-643.03	37.205	0.2646	-143.48	-2101.2
12	1816.6	-642.86	37.210	0.2646	-143.49	-2100.5
13	1792.0	-642.68	37.214	0.2646	-143.51	-2099.8
14	1766.7	-642.50	37.219	0.2646	-143.52	-2099.1
15	685.44	-1128.8	18.781	0.2646	-57.729	-4872.7
16	914.13	-1128.8	18.546	0.2646	-56.939	-4872.7
17	1142.8	-1128.8	18.310	0.2646	-56.149	-4872.7
18	1371.5	-1128.7	18.074	0.2646	-55.359	-4872.8
19	1600.2	-1128.7	17.838	0.2646	-54.569	-4872.8
20	848.19	-1130.9	18.765	0.2646	-57.696	-4883.4
21	1076.9	-1130.9	18.530	0.2646	-56.907	-4883.4
22	1305.6	-1130.8	18.294	0.2646	-56.117	-4883.4
23	1534.3	-1130.8	18.058	0.2646	-55.327	-4883.4
24	1763.0	-1130.7	17.823	0.2646	-54.538	-4883.5
25	998.81	-1431.2	10.314	0.1742	-23.855	-5492.6
26	1306.6	-1431.1	9.9737	0.1742	-22.851	-5492.6
27	1614.4	-1431.1	9.6336	0.1742	-21.847	-5492.6
28	1922.1	-1431.0	9.2935	0.1742	-20.843	-5492.6
29	2229.9	-1430.9	8.9535	0.1742	-19.839	-5492.5
30	1065.1	-1432.3	10.311	0.1742	-23.850	-5497.7
31	1372.9	-1432.3	9.9707	0.1742	-22.846	-5497.7
32	1680.7	-1432.2	9.6307	0.1742	-21.842	-5497.7
33	1988.5	-1432.2	9.2907	0.1742	-20.838	-5497.6
34	2296.3	-1432.1	8.9508	0.1742	-19.835	-5497.6
MINIMUM	532.57	-1432.3	8.9508	0.1742	-155.69	-5497.7
Pile N.	7	30	34	25	7	30
MAXIMUM	2296.3	-642.50	40.014	0.2646	-19.835	-2099.0
Pile N.	34	14	7	1	34	7

PILE GROUP	STRESS, KN/ M**2
*****	*****
1	5937.2
2	5926.8
3	5916.7

APPALTATORE:

Consorzio

Soci



PROGETTAZIONE:

Mandataria

Mandanti



PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

## ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	70 di 260

4	5906.6
5	5896.5
6	5886.4
7	5876.1
8	6348.6
9	6338.2
10	6328.1
11	6318.0
12	6307.9
13	6297.8
14	6287.5
15	3280.0
16	3356.1
17	3432.2
18	3508.3
19	3584.5
20	3340.9
21	3417.0
22	3493.1
23	3569.3
24	3645.4
25	3768.7
26	3871.2
27	3973.7
28	4076.3
29	4178.8
30	3794.0
31	3896.5
32	3999.0
33	4101.6
34	4204.1

MINIMUM 3280.0  
Pile N. 15  
MAXIMUM 6348.6  
Pile N. 8

\* EFFECTS FOR LATERALLY LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2	FLEX. RIG. z-DIR KN- M**2	FLEX. RIG. y-DIR KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	-2.2891E-03	-1.9114E-06	-736.31	-155.62	-643.89	-10.032	-154.63	-1.6246	227.25	1.1340E+07	4.9219E+07
x(M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
2	-2.2882E-03	-1.9115E-06	-736.07	-155.63	-643.71	-10.032	-154.60	-1.6246	218.82	1.1340E+07	4.9219E+07
x(M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
3	-2.2874E-03	-1.9116E-06	-735.84	-155.64	-643.53	-10.033	-154.56	-1.6247	210.60	1.1340E+07	4.9219E+07
x(M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
4	-2.2865E-03	-1.9118E-06	-735.62	-155.66	-643.36	-10.033	-154.53	-1.6248	202.39	1.1340E+07	4.9219E+07
x(M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
5	-2.2856E-03	-1.9119E-06	-735.39	-155.67	-643.18	-10.033	-154.49	-1.6248	194.17	1.1340E+07	4.9219E+07
x(M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
6	-2.2848E-03	-1.9120E-06	-735.16	-155.68	-643.00	-10.033	-154.45	-1.6249	185.96	1.1340E+07	4.9219E+07
x(M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
7	-2.2839E-03	-1.9121E-06	-734.92	-155.69	-642.82	-10.034	-154.42	-1.6250	177.52	1.1340E+07	4.9219E+07
x(M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
8	-2.2831E-03	-1.8006E-06	-736.55	-143.45	-643.65	-9.4236	-154.63	-1.5277	638.61	1.1340E+07	4.9219E+07
x(M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
9	-2.2882E-03	-1.8007E-06	-736.32	-143.46	-643.47	-9.4239	-154.59	-1.5278	630.18	1.1340E+07	4.9219E+07
x(M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
10	-2.2874E-03	-1.8008E-06	-736.09	-143.47	-643.30	-9.4241	-154.56	-1.5278	621.96	1.1340E+07	4.9219E+07
x(M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
11	-2.2865E-03	-1.8009E-06	-735.86	-143.48	-643.12	-9.4244	-154.52	-1.5279	613.75	1.1340E+07	4.9219E+07
x(M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
12	-2.2856E-03	-1.8010E-06	-735.63	-143.49	-642.94	-9.4246	-154.49	-1.5279	605.53	1.1340E+07	4.9219E+07
x(M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
13	-2.2848E-03	-1.8011E-06	-735.40	-143.51	-642.77	-9.4249	-154.45	-1.5280	597.32	1.1340E+07	4.9219E+07
x(M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
14	-2.2839E-03	-1.8012E-06	-735.17	-143.52	-642.58	-9.4252	-154.41	-1.5281	588.89	1.1340E+07	4.9219E+07
x(M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
15	-2.2836E-03	-1.3672E-06	-1618.3	-57.729	-1128.9	-4.1365	-193.24	-0.9643	228.48	4.9219E+07	1.1340E+07
x(M)	0.0000	12.500	9.5000	0.0000	0.0000	10.500	5.0000	13.000	50.000	0.0000	0.0000
16	-2.2836E-03	-1.3528E-06	-1618.4	-56.939	-1128.8	-4.0907	-193.24	-0.9537	304.71	4.9219E+07	1.1340E+07
x(M)	0.0000	12.500	9.5000	0.0000	0.0000	10.500	5.0000	13.000	50.000	0.0000	0.0000
17	-2.2836E-03	-1.3383E-06	-1618.4	-56.149	-1128.8	-4.0449	-193.24	-0.9431	380.94	4.9219E+07	1.1340E+07
x(M)	0.0000	12.500	9.5000	0.0000	0.0000	10.500	5.0000	13.000	50.000	0.0000	0.0000
18	-2.2836E-03	-1.3238E-06	-1618.4	-55.359	-1128.8	-3.9991	-193.24	-0.9325	457.17	4.9219E+07	1.1340E+07
x(M)	0.0000	12.500	9.5000	0.0000	0.0000	10.500	5.0000	13.000	50.000	0.0000	0.0000
19	-2.2836E-03	-1.3094E-06	-1618.5	-54.569	-1128.7	-3.9533	-193.24	-0.9219	533.41	4.9219E+07	1.1340E+07
x(M)	0.0000	12.500	9.5000	0.0000	0.0000	10.500	5.0000	13.000	50.000	0.0000	0.0000
20	-2.2833E-03	-1.3663E-06	-1621.5	-57.696	-1130.9	-4.1340	-193.52	-0.9640	282.73	4.9219E+07	1.1340E+07
x(M)	0.0000	12.500	9.5000	0.0000	0.0000	10.500	5.0000	13.000	50.000	0.0000	0.0000
21	-2.2893E-03	-1.3519E-06	-1621.6	-56.907	-1130.9	-4.0882	-193.52	-0.9534	358.96	4.9219E+07	1.1340E+07
x(M)	0.0000	12.500	9.5000	0.0000	0.0000	10.500	5.0000	13.000	50.000	0.0000	0.0000
22	-2.2893E-03	-1.3374E-06	-1621.6	-56.117	-1130.9	-4.0425	-193.52	-0.9428	435.19	4.9219E+07	1.1340E+07



APPALTATORE: Consorzio <b>HirpiniaAV</b> Soci <b>salini impregilo</b> <b>ASTALDI</b>		<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
PROGETTAZIONE: Mandataria <b>ROKSOJL</b> Mandanti <b>NETENGINEERING</b> <b>Alpina</b>							
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B							
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO		
IF1N	01 E ZZ	RG	MD0000 001	B	72 di 260		

x( M)	12.960	0.0000	0.0000	6.8400	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
28	3.8249E-05	3.3070E-05	5492.6	11.400	494.78	9.2942	110.15	3.3391	4076.3	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.8400	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
29	3.8251E-05	3.2207E-05	5492.5	11.066	494.80	8.9542	110.16	3.2072	4178.8	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
30	3.8279E-05	3.5659E-05	5497.7	12.433	495.19	10.311	110.25	3.7357	3794.0	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.8400	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
31	3.8281E-05	3.4796E-05	5497.7	12.088	495.21	9.9712	110.25	3.6038	3896.5	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.8400	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
32	3.8283E-05	3.3933E-05	5497.7	11.744	495.23	9.6313	110.26	3.4718	3999.0	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.8400	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
33	3.8285E-05	3.3070E-05	5497.6	11.399	495.25	9.2914	110.26	3.3398	4101.6	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.8400	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
34	3.8287E-05	3.2207E-05	5497.6	11.065	495.27	8.9515	110.27	3.2079	4204.1	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
Max.	5.1000E-05	8.0611E-05	5497.7	65.960	495.27	40.015	110.27	7.4366	6348.6	4.9219E+07	4.9219E+07
Pile N.	8	1	30	7	34	7	34	7	8	15	1

LOAD CASE : 2  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
45390.2	-37757.6	819.782
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
273.326	7476.06	-2.26412E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
4.12753E-04	-2.68576E-03	8.08705E-05
ANGLE ROT. X, RAD	ANGLE ROT. Y, RAD	ANGLE ROT. Z, RAD
2.98418E-07	3.19971E-06	4.33009E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
*****	*****	*****	*****	*****	*****	*****
1	1.2881E-04	-2.6881E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
2	1.2011E-04	-2.6873E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
3	1.1163E-04	-2.6865E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
4	1.0315E-04	-2.6858E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
5	9.4673E-05	-2.6850E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
6	8.6194E-05	-2.6842E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
7	7.7490E-05	-2.6834E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
8	7.4802E-05	-2.6881E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
9	7.3931E-05	-2.6873E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
10	7.3083E-05	-2.6865E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
11	7.2235E-05	-2.6858E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
12	7.1387E-05	-2.6850E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
13	7.0540E-05	-2.6842E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
14	6.9669E-05	-2.6834E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
15	1.5526E-04	-2.6832E-03	8.2452E-05	2.9842E-07	3.1997E-06	4.3301E-05
16	2.7001E-04	-2.6832E-03	8.1661E-05	2.9842E-07	3.1997E-06	4.3301E-05
17	3.8476E-04	-2.6832E-03	8.0870E-05	2.9842E-07	3.1997E-06	4.3301E-05
18	4.9950E-04	-2.6832E-03	8.0080E-05	2.9842E-07	3.1997E-06	4.3301E-05
19	6.1425E-04	-2.6832E-03	7.9289E-05	2.9842E-07	3.1997E-06	4.3301E-05
20	2.1126E-04	-2.6884E-03	8.2452E-05	2.9842E-07	3.1997E-06	4.3301E-05
21	3.2600E-04	-2.6884E-03	8.1661E-05	2.9842E-07	3.1997E-06	4.3301E-05
22	4.4075E-04	-2.6884E-03	8.0870E-05	2.9842E-07	3.1997E-06	4.3301E-05
23	5.5550E-04	-2.6884E-03	8.0080E-05	2.9842E-07	3.1997E-06	4.3301E-05
24	6.7024E-04	-2.6884E-03	7.9289E-05	2.9842E-07	3.1997E-06	4.3301E-05
25	1.7478E-04	-2.0787E-03	3.7656E-05	2.9842E-07	3.1997E-06	4.3301E-05
26	2.8953E-04	-2.0787E-03	3.6866E-05	2.9842E-07	3.1997E-06	4.3301E-05
27	4.0427E-04	-2.0787E-03	3.6075E-05	2.9842E-07	3.1997E-06	4.3301E-05
28	5.1902E-04	-2.0787E-03	3.5284E-05	2.9842E-07	3.1997E-06	4.3301E-05
29	6.3377E-04	-2.0787E-03	3.4493E-05	2.9842E-07	3.1997E-06	4.3301E-05
30	1.9174E-04	-2.0803E-03	3.7656E-05	2.9842E-07	3.1997E-06	4.3301E-05
31	3.0649E-04	-2.0803E-03	3.6866E-05	2.9842E-07	3.1997E-06	4.3301E-05



APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandataria

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	73 di 260

32	4.2123E-04	-2.0803E-03	3.6075E-05	2.9842E-07	3.1997E-06	4.3301E-05
33	5.3598E-04	-2.0803E-03	3.5284E-05	2.9842E-07	3.1997E-06	4.3301E-05
34	6.5073E-04	-2.0803E-03	3.4493E-05	2.9842E-07	3.1997E-06	4.3301E-05
MINIMUM	7.7490E-05	-2.6884E-03	3.4493E-05	2.9842E-07	3.1997E-06	4.3301E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	7.4802E-04	-2.0787E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
1	378.17	-715.35	39.589	0.2424	-156.57	-2354.7
2	352.62	-715.19	39.593	0.2424	-156.58	-2354.1
3	327.73	-715.04	39.596	0.2424	-156.59	-2353.4
4	302.83	-714.89	39.600	0.2424	-156.60	-2352.8
5	277.94	-714.73	39.603	0.2424	-156.60	-2352.2
6	253.05	-714.58	39.607	0.2424	-156.61	-2351.6
7	227.50	-714.42	39.611	0.2424	-156.62	-2350.9
8	2196.0	-714.82	37.125	0.2424	-145.70	-2354.7
9	2170.5	-714.66	37.128	0.2424	-145.70	-2354.1
10	2145.6	-714.51	37.132	0.2424	-145.71	-2353.5
11	2120.7	-714.36	37.135	0.2424	-145.72	-2352.8
12	2095.8	-714.20	37.138	0.2424	-145.73	-2352.2
13	2070.9	-714.05	37.142	0.2424	-145.74	-2351.6
14	2045.4	-713.89	37.145	0.2424	-145.75	-2351.0
15	455.82	-1246.7	18.525	0.2424	-57.847	-5406.4
16	792.69	-1246.6	18.318	0.2424	-57.145	-5406.4
17	1129.6	-1246.6	18.110	0.2424	-56.442	-5406.5
18	1466.4	-1246.5	17.902	0.2424	-55.740	-5406.5
19	1803.3	-1246.4	17.694	0.2424	-55.037	-5406.5
20	620.21	-1248.5	18.512	0.2424	-57.822	-5415.9
21	957.08	-1248.4	18.305	0.2424	-57.119	-5416.0
22	1294.0	-1248.4	18.097	0.2424	-56.417	-5416.0
23	1630.8	-1248.3	17.889	0.2424	-55.715	-5416.0
24	1967.7	-1248.2	17.682	0.2424	-55.012	-5416.0
25	690.55	-1527.5	10.773	0.1596	-25.516	-5831.0
26	1143.9	-1527.4	10.467	0.1596	-24.608	-5830.9
27	1597.3	-1527.3	10.162	0.1596	-23.700	-5830.9
28	2050.7	-1527.2	9.8564	0.1596	-22.793	-5830.9
29	2504.0	-1527.1	9.5512	0.1596	-21.885	-5830.8
30	757.56	-1528.5	10.770	0.1596	-25.512	-5835.6
31	1210.9	-1528.4	10.465	0.1596	-24.604	-5835.6
32	1664.3	-1528.3	10.159	0.1596	-23.697	-5835.5
33	2117.7	-1528.2	9.8539	0.1596	-22.789	-5835.5
34	2571.0	-1528.1	9.5488	0.1596	-21.882	-5835.5
MINIMUM	227.50	-1528.5	9.5488	0.1596	-156.62	-5835.6
Pile N.	7	30	34	25	7	30
MAXIMUM	2571.0	-713.89	39.611	0.2424	-21.882	-2350.9
Pile N.	34	14	7	1	34	7

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
1	1.2881E-04	-2.6881E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
2	1.2011E-04	-2.6873E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
3	1.1163E-04	-2.6865E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
4	1.0315E-04	-2.6858E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
5	9.4673E-05	-2.6850E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
6	8.6194E-05	-2.6842E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
7	7.7490E-05	-2.6834E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
8	7.4802E-04	-2.6881E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
9	7.3931E-04	-2.6873E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
10	7.3083E-04	-2.6865E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
11	7.2235E-04	-2.6858E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
12	7.1387E-04	-2.6850E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
13	7.0540E-04	-2.6842E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
14	6.9669E-04	-2.6834E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
15	1.5526E-04	-2.6832E-03	8.2452E-05	2.9842E-07	3.1997E-06	4.3301E-05
16	2.7001E-04	-2.6832E-03	8.1661E-05	2.9842E-07	3.1997E-06	4.3301E-05
17	3.8476E-04	-2.6832E-03	8.0870E-05	2.9842E-07	3.1997E-06	4.3301E-05
18	4.9950E-04	-2.6832E-03	8.0080E-05	2.9842E-07	3.1997E-06	4.3301E-05
19	6.1425E-04	-2.6832E-03	7.9289E-05	2.9842E-07	3.1997E-06	4.3301E-05
20	2.1126E-04	-2.6884E-03	8.2452E-05	2.9842E-07	3.1997E-06	4.3301E-05
21	3.2600E-04	-2.6884E-03	8.1661E-05	2.9842E-07	3.1997E-06	4.3301E-05
22	4.4075E-04	-2.6884E-03	8.0870E-05	2.9842E-07	3.1997E-06	4.3301E-05
23	5.5550E-04	-2.6884E-03	8.0080E-05	2.9842E-07	3.1997E-06	4.3301E-05
24	6.7024E-04	-2.6884E-03	7.9289E-05	2.9842E-07	3.1997E-06	4.3301E-05
25	1.7478E-04	-2.0787E-03	3.7656E-05	2.9842E-07	3.1997E-06	4.3301E-05
26	2.8953E-04	-2.0787E-03	3.6866E-05	2.9842E-07	3.1997E-06	4.3301E-05
27	4.0427E-04	-2.0787E-03	3.6075E-05	2.9842E-07	3.1997E-06	4.3301E-05

## APPALTATORE:

Consorzio

Soci



## ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

## PROGETTAZIONE:

Mandataria

Mandanti



## PROGETTO ESECUTIVO

## RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA  
IF1NLOTTO  
01 E ZZCODIFICA  
RGDOCUMENTO  
MD0000 001REV.  
BFOGLIO  
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28	5.1902E-04	-2.0787E-03	3.5284E-05	2.9842E-07	3.1997E-06	4.3301E-05
29	6.3377E-04	-2.0787E-03	3.4493E-05	2.9842E-07	3.1997E-06	4.3301E-05
30	1.9174E-04	-2.0803E-03	3.7656E-05	2.9842E-07	3.1997E-06	4.3301E-05
31	3.0649E-04	-2.0803E-03	3.6866E-05	2.9842E-07	3.1997E-06	4.3301E-05
32	4.2123E-04	-2.0803E-03	3.6075E-05	2.9842E-07	3.1997E-06	4.3301E-05
33	5.3598E-04	-2.0803E-03	3.5284E-05	2.9842E-07	3.1997E-06	4.3301E-05
34	6.5073E-04	-2.0803E-03	3.4493E-05	2.9842E-07	3.1997E-06	4.3301E-05
MINIMUM	7.7490E-05	-2.6884E-03	3.4493E-05	2.9842E-07	3.1997E-06	4.3301E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	7.4802E-04	-2.0787E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
Pile N.	8	25	1	1	1	1

## \* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
1	378.17	-715.35	39.589	0.2424	-156.57	-2354.7
2	352.62	-715.19	39.593	0.2424	-156.58	-2354.1
3	327.73	-715.04	39.596	0.2424	-156.59	-2353.4
4	302.83	-714.89	39.600	0.2424	-156.60	-2352.8
5	277.94	-714.73	39.603	0.2424	-156.60	-2352.2
6	253.05	-714.58	39.607	0.2424	-156.61	-2351.6
7	227.50	-714.42	39.611	0.2424	-156.62	-2350.9
8	2196.0	-714.82	37.125	0.2424	-145.70	-2354.7
9	2170.5	-714.66	37.128	0.2424	-145.70	-2354.1
10	2145.6	-714.51	37.132	0.2424	-145.71	-2353.5
11	2120.7	-714.36	37.135	0.2424	-145.72	-2352.8
12	2095.8	-714.20	37.138	0.2424	-145.73	-2352.2
13	2070.9	-714.05	37.142	0.2424	-145.74	-2351.6
14	2045.4	-713.89	37.145	0.2424	-145.75	-2351.0
15	455.82	-1246.7	18.525	0.2424	-57.847	-5406.4
16	792.69	-1246.6	18.318	0.2424	-57.145	-5406.4
17	1129.6	-1246.6	18.110	0.2424	-56.442	-5406.5
18	1466.4	-1246.5	17.902	0.2424	-55.740	-5406.5
19	1803.3	-1246.4	17.694	0.2424	-55.037	-5406.5
20	620.21	-1248.5	18.512	0.2424	-57.822	-5415.9
21	957.08	-1248.4	18.305	0.2424	-57.119	-5416.0
22	1294.0	-1248.4	18.097	0.2424	-56.417	-5416.0
23	1630.8	-1248.3	17.889	0.2424	-55.715	-5416.0
24	1967.7	-1248.2	17.682	0.2424	-55.012	-5416.0
25	690.55	-1527.5	10.773	0.1596	-25.516	-5831.0
26	1143.9	-1527.4	10.467	0.1596	-24.608	-5830.9
27	1597.3	-1527.3	10.162	0.1596	-23.700	-5830.9
28	2050.7	-1527.2	9.8564	0.1596	-22.793	-5830.9
29	2504.0	-1527.1	9.5512	0.1596	-21.885	-5830.8
30	757.56	-1528.5	10.770	0.1596	-25.512	-5835.6
31	1210.9	-1528.4	10.465	0.1596	-24.604	-5835.6
32	1664.3	-1528.3	10.159	0.1596	-23.697	-5835.5
33	2117.7	-1528.2	9.8539	0.1596	-22.789	-5835.5
34	2571.0	-1528.1	9.5488	0.1596	-21.882	-5835.5
MINIMUM	227.50	-1528.5	9.5488	0.1596	-156.62	-5835.6
Pile N.	7	30	34	25	7	30
MAXIMUM	2571.0	-713.89	39.611	0.2424	-21.882	-2350.9
Pile N.	34	14	7	1	34	7

## PILE GROUP STRESS, KN/ M\*\*2

1	6518.5
2	6508.2
3	6498.3
4	6488.3
5	6478.3
6	6468.3
7	6458.1
8	7124.4
9	7114.2
10	7104.2
11	7094.2
12	7084.3
13	7074.3
14	7064.0
15	3536.8
16	3649.0
17	3761.2
18	3873.5
19	3985.7
20	3597.5
21	3709.8
22	3822.0
23	3934.2
24	4046.4
25	3877.6
26	4028.6
27	4179.7
28	4330.8
29	4481.8





## APPALTATORE:

Consorzio



Soci



## ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

## PROGETTAZIONE:

Mandatario



Mandanti



## PROGETTO ESECUTIVO

## RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA  
IF1NLOTTO  
01 E ZZCODIFICA  
RGDOCUMENTO  
MD0000 001REV.  
BFOGLIO  
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\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN 42620.6	HOR. LOAD Y, KN -37201.1	HOR. LOAD Z, KN 716.443
MOMENT X, KN- M 338.681	MOMENT Y, KN- M 4390.08	MOMENT Z, KN- M -2.32585E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M 3.87568E-04	HORIZONTAL Y, M -2.60438E-03	HORIZONTAL Z, M 6.64617E-05
ANGLE ROT. X, RAD 3.65862E-07	ANGLE ROT. Y, RAD 2.29031E-06	ANGLE ROT. Z, RAD 3.99901E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
*****	*****	*****	*****	*****	*****	*****
1	1.2001E-04	-2.6073E-03	6.9078E-05	3.6586E-07	2.2903E-06	3.9990E-05
2	1.1378E-04	-2.6063E-03	6.9078E-05	3.6586E-07	2.2903E-06	3.9990E-05
3	1.0771E-04	-2.6054E-03	6.9078E-05	3.6586E-07	2.2903E-06	3.9990E-05
4	1.0164E-04	-2.6044E-03	6.9078E-05	3.6586E-07	2.2903E-06	3.9990E-05
5	9.5569E-05	-2.6034E-03	6.9078E-05	3.6586E-07	2.2903E-06	3.9990E-05
6	8.9500E-05	-2.6024E-03	6.9078E-05	3.6586E-07	2.2903E-06	3.9990E-05
7	8.3270E-05	-2.6014E-03	6.9078E-05	3.6586E-07	2.2903E-06	3.9990E-05
8	6.9186E-04	-2.6073E-03	6.3846E-05	3.6586E-07	2.2903E-06	3.9990E-05
9	6.8564E-04	-2.6063E-03	6.3846E-05	3.6586E-07	2.2903E-06	3.9990E-05
10	6.7957E-04	-2.6054E-03	6.3846E-05	3.6586E-07	2.2903E-06	3.9990E-05
11	6.7350E-04	-2.6044E-03	6.3846E-05	3.6586E-07	2.2903E-06	3.9990E-05
12	6.6743E-04	-2.6034E-03	6.3846E-05	3.6586E-07	2.2903E-06	3.9990E-05
13	6.6136E-04	-2.6024E-03	6.3846E-05	3.6586E-07	2.2903E-06	3.9990E-05
14	6.5513E-04	-2.6014E-03	6.3846E-05	3.6586E-07	2.2903E-06	3.9990E-05
15	1.5558E-04	-2.6012E-03	6.8401E-05	3.6586E-07	2.2903E-06	3.9990E-05
16	2.6155E-04	-2.6012E-03	6.7431E-05	3.6586E-07	2.2903E-06	3.9990E-05
17	3.6753E-04	-2.6012E-03	6.6462E-05	3.6586E-07	2.2903E-06	3.9990E-05
18	4.7350E-04	-2.6012E-03	6.5492E-05	3.6586E-07	2.2903E-06	3.9990E-05
19	5.7947E-04	-2.6012E-03	6.4523E-05	3.6586E-07	2.2903E-06	3.9990E-05
20	1.9566E-04	-2.6076E-03	6.8401E-05	3.6586E-07	2.2903E-06	3.9990E-05
21	3.0163E-04	-2.6076E-03	6.7431E-05	3.6586E-07	2.2903E-06	3.9990E-05
22	4.0761E-04	-2.6076E-03	6.6462E-05	3.6586E-07	2.2903E-06	3.9990E-05
23	5.1358E-04	-2.6076E-03	6.5492E-05	3.6586E-07	2.2903E-06	3.9990E-05
24	6.1956E-04	-2.6076E-03	6.4523E-05	3.6586E-07	2.2903E-06	3.9990E-05
25	1.6955E-04	-2.0435E-03	3.6336E-05	3.6586E-07	2.2903E-06	3.9990E-05
26	2.7552E-04	-2.0435E-03	3.5367E-05	3.6586E-07	2.2903E-06	3.9990E-05
27	3.8150E-04	-2.0435E-03	3.4397E-05	3.6586E-07	2.2903E-06	3.9990E-05
28	4.8747E-04	-2.0435E-03	3.3428E-05	3.6586E-07	2.2903E-06	3.9990E-05
29	5.9345E-04	-2.0435E-03	3.2458E-05	3.6586E-07	2.2903E-06	3.9990E-05
30	1.8169E-04	-2.0455E-03	3.6336E-05	3.6586E-07	2.2903E-06	3.9990E-05
31	2.8766E-04	-2.0455E-03	3.5367E-05	3.6586E-07	2.2903E-06	3.9990E-05
32	3.9364E-04	-2.0455E-03	3.4397E-05	3.6586E-07	2.2903E-06	3.9990E-05
33	4.9961E-04	-2.0455E-03	3.3428E-05	3.6586E-07	2.2903E-06	3.9990E-05
34	6.0558E-04	-2.0455E-03	3.2458E-05	3.6586E-07	2.2903E-06	3.9990E-05
MINIMUM	8.3270E-05	-2.6076E-03	3.2458E-05	3.6586E-07	2.2903E-06	3.9990E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.9186E-04	-2.0435E-03	6.9078E-05	3.6586E-07	2.2903E-06	3.9990E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	352.32	-701.57	34.170	0.2972	-137.47	-2306.7
2	334.03	-701.37	34.174	0.2972	-137.48	-2306.0
3	316.21	-701.18	34.177	0.2972	-137.49	-2305.2
4	298.39	-700.99	34.181	0.2972	-137.50	-2304.4
5	280.57	-700.79	34.185	0.2972	-137.51	-2303.7
6	262.76	-700.60	34.189	0.2972	-137.52	-2302.9
7	244.47	-700.40	34.193	0.2972	-137.53	-2302.1
8	2031.2	-701.10	31.131	0.2972	-124.07	-2306.8
9	2012.9	-700.90	31.134	0.2972	-124.08	-2306.0
10	1995.1	-700.71	31.138	0.2972	-124.09	-2305.2
11	1977.3	-700.52	31.141	0.2972	-124.10	-2304.5
12	1959.4	-700.32	31.145	0.2972	-124.11	-2303.7
13	1941.6	-700.13	31.148	0.2972	-124.12	-2302.9

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandatario

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	78 di 260

14	1923.3	-699.93	31.152	0.2972	-124.13	-2302.2
15	456.75	-1223.9	15.832	0.2972	-50.060	-5305.2
16	767.87	-1223.8	15.577	0.2972	-49.193	-5305.2
17	1079.0	-1223.7	15.321	0.2972	-48.326	-5305.3
18	1390.1	-1223.7	15.065	0.2972	-47.460	-5305.3
19	1701.2	-1223.6	14.810	0.2972	-46.593	-5305.3
20	574.42	-1226.1	15.819	0.2972	-50.032	-5316.9
21	885.54	-1226.0	15.564	0.2972	-49.166	-5317.0
22	1196.7	-1226.0	15.308	0.2972	-48.300	-5317.0
23	1507.8	-1225.9	15.053	0.2972	-47.434	-5317.0
24	1818.9	-1225.9	14.797	0.2972	-46.567	-5317.0
25	669.90	-1513.7	11.356	0.1957	-29.115	-5790.4
26	1088.6	-1513.6	10.981	0.1957	-28.000	-5790.4
27	1507.3	-1513.6	10.605	0.1957	-26.884	-5790.4
28	1926.0	-1513.5	10.230	0.1957	-25.769	-5790.3
29	2344.7	-1513.4	9.8556	0.1957	-24.653	-5790.3
30	717.86	-1515.0	11.353	0.1957	-29.110	-5796.1
31	1136.6	-1514.9	10.977	0.1957	-27.995	-5796.1
32	1555.3	-1514.8	10.602	0.1957	-26.879	-5796.1
33	1974.0	-1514.7	10.228	0.1957	-25.764	-5796.0
34	2392.7	-1514.7	9.8528	0.1957	-24.649	-5796.0
MINIMUM	244.47	-1515.0	9.8528	0.1957	-137.53	-5796.1
Pile N.	7	30	34	25	7	30
MAXIMUM	2392.7	-699.93	34.193	0.2972	-24.649	-2302.1
Pile N.	34	14	7	1	34	7

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
1	1.2001E-04	-2.6073E-03	6.9078E-05	3.6586E-07	2.2903E-06	3.9990E-05
2	1.1378E-04	-2.6063E-03	6.9078E-05	3.6586E-07	2.2903E-06	3.9990E-05
3	1.0771E-04	-2.6054E-03	6.9078E-05	3.6586E-07	2.2903E-06	3.9990E-05
4	1.0164E-04	-2.6044E-03	6.9078E-05	3.6586E-07	2.2903E-06	3.9990E-05
5	9.5569E-05	-2.6034E-03	6.9078E-05	3.6586E-07	2.2903E-06	3.9990E-05
6	8.9500E-05	-2.6024E-03	6.9078E-05	3.6586E-07	2.2903E-06	3.9990E-05
7	8.3270E-05	-2.6014E-03	6.9078E-05	3.6586E-07	2.2903E-06	3.9990E-05
8	6.9186E-04	-2.6073E-03	6.3846E-05	3.6586E-07	2.2903E-06	3.9990E-05
9	6.8564E-04	-2.6063E-03	6.3846E-05	3.6586E-07	2.2903E-06	3.9990E-05
10	6.7957E-04	-2.6054E-03	6.3846E-05	3.6586E-07	2.2903E-06	3.9990E-05
11	6.7350E-04	-2.6044E-03	6.3846E-05	3.6586E-07	2.2903E-06	3.9990E-05
12	6.6743E-04	-2.6034E-03	6.3846E-05	3.6586E-07	2.2903E-06	3.9990E-05
13	6.6136E-04	-2.6024E-03	6.3846E-05	3.6586E-07	2.2903E-06	3.9990E-05
14	6.5513E-04	-2.6014E-03	6.3846E-05	3.6586E-07	2.2903E-06	3.9990E-05
15	1.5558E-04	-2.6012E-03	6.8401E-05	3.6586E-07	2.2903E-06	3.9990E-05
16	2.6155E-04	-2.6012E-03	6.7431E-05	3.6586E-07	2.2903E-06	3.9990E-05
17	3.6753E-04	-2.6012E-03	6.6462E-05	3.6586E-07	2.2903E-06	3.9990E-05
18	4.7350E-04	-2.6012E-03	6.5492E-05	3.6586E-07	2.2903E-06	3.9990E-05
19	5.7947E-04	-2.6012E-03	6.4523E-05	3.6586E-07	2.2903E-06	3.9990E-05
20	1.9566E-04	-2.6076E-03	6.8401E-05	3.6586E-07	2.2903E-06	3.9990E-05
21	3.0163E-04	-2.6076E-03	6.7431E-05	3.6586E-07	2.2903E-06	3.9990E-05
22	4.0761E-04	-2.6076E-03	6.6462E-05	3.6586E-07	2.2903E-06	3.9990E-05
23	5.1358E-04	-2.6076E-03	6.5492E-05	3.6586E-07	2.2903E-06	3.9990E-05
24	6.1956E-04	-2.6076E-03	6.4523E-05	3.6586E-07	2.2903E-06	3.9990E-05
25	1.6955E-04	-2.0435E-03	3.6336E-05	3.6586E-07	2.2903E-06	3.9990E-05
26	2.7552E-04	-2.0435E-03	3.5367E-05	3.6586E-07	2.2903E-06	3.9990E-05
27	3.8150E-04	-2.0435E-03	3.4397E-05	3.6586E-07	2.2903E-06	3.9990E-05
28	4.8747E-04	-2.0435E-03	3.3428E-05	3.6586E-07	2.2903E-06	3.9990E-05
29	5.9345E-04	-2.0435E-03	3.2458E-05	3.6586E-07	2.2903E-06	3.9990E-05
30	1.8169E-04	-2.0455E-03	3.6336E-05	3.6586E-07	2.2903E-06	3.9990E-05
31	2.8766E-04	-2.0455E-03	3.5367E-05	3.6586E-07	2.2903E-06	3.9990E-05
32	3.9364E-04	-2.0455E-03	3.4397E-05	3.6586E-07	2.2903E-06	3.9990E-05
33	4.9961E-04	-2.0455E-03	3.3428E-05	3.6586E-07	2.2903E-06	3.9990E-05
34	6.0558E-04	-2.0455E-03	3.2458E-05	3.6586E-07	2.2903E-06	3.9990E-05
MINIMUM	8.3270E-05	-2.6076E-03	3.2458E-05	3.6586E-07	2.2903E-06	3.9990E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.9186E-04	-2.0435E-03	6.9078E-05	3.6586E-07	2.2903E-06	3.9990E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	352.32	-701.57	34.170	0.2972	-137.47	-2306.7
2	334.03	-701.37	34.174	0.2972	-137.48	-2306.0
3	316.21	-701.18	34.177	0.2972	-137.49	-2305.2
4	298.39	-700.99	34.181	0.2972	-137.50	-2304.4
5	280.57	-700.79	34.185	0.2972	-137.51	-2303.7
6	262.76	-700.60	34.189	0.2972	-137.52	-2302.9
7	244.47	-700.40	34.193	0.2972	-137.53	-2302.1
8	2031.2	-701.10	31.131	0.2972	-124.07	-2306.8
9	2012.9	-700.90	31.134	0.2972	-124.08	-2306.0

<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>							

10	1995.1	-700.71	31.138	0.2972	-124.09	-2305.2
11	1977.3	-700.52	31.141	0.2972	-124.10	-2304.5
12	1959.4	-700.32	31.145	0.2972	-124.11	-2303.7
13	1941.6	-700.13	31.148	0.2972	-124.12	-2302.9
14	1923.3	-699.93	31.152	0.2972	-124.13	-2302.2
15	456.75	-1223.9	15.832	0.2972	-50.060	-5305.2
16	767.87	-1223.8	15.577	0.2972	-49.193	-5305.2
17	1079.0	-1223.7	15.321	0.2972	-48.326	-5305.3
18	1390.1	-1223.7	15.065	0.2972	-47.460	-5305.3
19	1701.2	-1223.6	14.810	0.2972	-46.593	-5305.3
20	574.42	-1226.1	15.819	0.2972	-50.032	-5316.9
21	885.54	-1226.0	15.564	0.2972	-49.166	-5317.0
22	1196.7	-1226.0	15.308	0.2972	-48.300	-5317.0
23	1507.8	-1225.9	15.053	0.2972	-47.434	-5317.0
24	1818.9	-1225.9	14.797	0.2972	-46.567	-5317.0
25	669.90	-1513.7	11.356	0.1957	-29.115	-5790.4
26	1088.6	-1513.6	10.981	0.1957	-28.000	-5790.4
27	1507.3	-1513.6	10.605	0.1957	-26.884	-5790.4
28	1926.0	-1513.5	10.230	0.1957	-25.769	-5790.3
29	2344.7	-1513.4	9.8556	0.1957	-24.653	-5790.3
30	717.86	-1515.0	11.353	0.1957	-29.110	-5796.1
31	1136.6	-1514.9	10.977	0.1957	-27.995	-5796.1
32	1555.3	-1514.8	10.602	0.1957	-26.879	-5796.1
33	1974.0	-1514.7	10.228	0.1957	-25.764	-5796.0
34	2392.7	-1514.7	9.8528	0.1957	-24.649	-5796.0
MINIMUM	244.47	-1515.0	9.8528	0.1957	-137.53	-5796.1
Pile N.	7	30	34	25	7	30
MAXIMUM	2392.7	-699.93	34.193	0.2972	-24.649	-2302.1
Pile N.	34	14	7	1	34	7

PILE GROUP STRESS, KN/ M\*\*2







*****	*****
1	6379.5
2	6371.3
3	6363.3
4	6355.3
5	6347.3
6	6339.3
7	6331.1
8	6939.2
9	6930.9
10	6922.9
11	6914.9
12	6906.9
13	6898.9
14	6890.7
15	3473.0
16	3576.6
17	3680.2
18	3783.8
19	3887.5
20	3519.5
21	3623.1
22	3726.7
23	3830.4
24	3934.0
25	3845.5
26	3985.0
27	4124.5
28	4264.0
29	4403.5
30	3865.1
31	4004.6
32	4144.1
33	4283.6
34	4423.0
MINIMUM	3473.0
Pile N.	15
MAXIMUM	6939.2
Pile N.	8

\* EFFECTS FOR LATERALLY LOADED PILE \*  
 \* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2	FLEX. RIG. z-DIR KN- M**2	FLEX. RIG. y-DIR KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	-2.6073E-03	-1.6183E-06	-816.79	-137.47	-701.59	-8.5797	-166.46	-1.3867	117.44	1.1340E+07	4.9219E+07
x( M)	0.0000	15.500	0.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
2	-2.6063E-03	-1.6184E-06	-816.53	-137.48	-701.39	-8.5799	-166.42	-1.3867	111.34	1.1340E+07	4.9219E+07
x( M)	0.0000	15.500	0.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
3	-2.6054E-03	-1.6185E-06	-816.29	-137.49	-701.20	-8.5802	-166.38	-1.3868	105.40	1.1340E+07	4.9219E+07
x( M)	0.0000	15.500	0.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
4	-2.6044E-03	-1.6185E-06	-816.04	-137.50	-701.00	-8.5804	-166.34	-1.3868	99.464	1.1340E+07	4.9219E+07





<b>APPALTATORE:</b> Consorzio <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
<b>COMMESSA</b> IF1N	<b>LOTTO</b> 01 E ZZ	<b>CODIFICA</b> RG	<b>DOCUMENTO</b> MD0000 001	<b>REV.</b> B	<b>FOGLIO</b> 81 di 260

x( M)	12.000	0.0000	0.0000	8.5000	10.000	0.0000	12.500	5.5000	0.0000	0.0000	0.0000
10	5.6080E-05	6.3846E-05	2305.2	51.560	169.47	31.139	37.925	5.6159	6922.9	1.1340E+07	4.9219E+07
x( M)	12.000	0.0000	0.0000	8.5000	10.000	0.0000	12.500	5.5000	0.0000	0.0000	0.0000
11	5.6064E-05	6.3846E-05	2304.5	51.563	169.42	31.142	37.912	5.6170	6914.9	1.1340E+07	4.9219E+07
x( M)	12.000	0.0000	0.0000	8.5000	10.000	0.0000	12.500	5.5000	0.0000	0.0000	0.0000
12	5.6048E-05	6.3846E-05	2303.7	51.565	169.36	31.146	37.900	5.6180	6906.9	1.1340E+07	4.9219E+07
x( M)	12.000	0.0000	0.0000	8.5000	10.000	0.0000	12.500	5.5000	0.0000	0.0000	0.0000
13	5.6032E-05	6.3846E-05	2302.9	51.568	169.31	31.149	37.887	5.6191	6898.9	1.1340E+07	4.9219E+07
x( M)	12.000	0.0000	0.0000	8.5000	10.000	0.0000	12.500	5.5000	0.0000	0.0000	0.0000
14	5.6015E-05	6.3846E-05	2302.2	51.570	169.25	31.153	37.874	5.6202	6890.7	1.1340E+07	4.9219E+07
x( M)	12.000	0.0000	0.0000	8.5000	10.000	0.0000	12.500	5.5000	0.0000	0.0000	0.0000
15	5.1393E-05	6.8401E-05	5305.2	18.341	268.44	15.833	53.688	3.7519	3473.0	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
16	5.1402E-05	6.7431E-05	5305.2	18.078	268.47	15.577	53.690	3.6937	3576.6	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
17	5.1410E-05	6.6462E-05	5305.3	17.814	268.50	15.322	53.691	3.6355	3680.2	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
18	5.1419E-05	6.5492E-05	5305.3	17.551	268.53	15.067	53.693	3.5773	3783.8	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
19	5.1427E-05	6.4523E-05	5305.3	17.288	268.56	14.812	53.694	3.5191	3887.5	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
20	5.1506E-05	6.8401E-05	5316.9	18.330	268.90	15.820	53.907	3.7479	3519.5	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
21	5.1515E-05	6.7431E-05	5317.0	18.067	268.93	15.565	53.909	3.6898	3623.1	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
22	5.1523E-05	6.6462E-05	5317.0	17.804	268.96	15.309	53.910	3.6317	3726.7	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
23	5.1532E-05	6.5492E-05	5317.0	17.541	268.99	15.054	53.912	3.5735	3830.4	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
24	5.1541E-05	6.4523E-05	5317.0	17.278	269.01	14.799	53.913	3.5154	3934.0	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
25	4.1411E-05	3.6336E-05	5790.4	13.304	535.61	11.356	119.24	4.3934	3845.5	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	7.2000	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
26	4.1414E-05	3.5367E-05	5790.4	12.905	535.65	10.981	119.25	4.2424	3985.0	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	7.2000	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
27	4.1417E-05	3.4397E-05	5790.4	12.506	535.68	10.606	119.25	4.0914	4124.5	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	7.2000	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
28	4.1420E-05	3.3428E-05	5790.3	12.106	535.71	10.231	119.26	3.9404	4264.0	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	7.2000	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
29	4.1423E-05	3.2458E-05	5790.3	11.707	535.74	9.8565	119.27	3.7895	4403.5	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	7.2000	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
30	4.1452E-05	3.6336E-05	5796.1	13.305	536.15	11.353	119.36	4.3944	3865.1	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	7.2000	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
31	4.1455E-05	3.5367E-05	5796.1	12.905	536.18	10.978	119.37	4.2433	4004.6	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	7.2000	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
32	4.1458E-05	3.4397E-05	5796.1	12.506	536.21	10.603	119.37	4.0923	4144.1	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	7.2000	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
33	4.1461E-05	3.3428E-05	5796.0	12.107	536.24	10.228	119.38	3.9413	4283.6	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	7.2000	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
34	4.1464E-05	3.2458E-05	5796.0	11.707	536.27	9.8537	119.39	3.7904	4423.0	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	7.2000	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
Max.	5.6112E-05	6.9078E-05	5796.1	55.966	536.27	34.193	119.39	6.1370	6939.2	4.9219E+07	4.9219E+07
Pile N.	8	1	30	7	34	7	34	7	8	15	1

LOAD CASE : 4  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
46715.3	-34872.8	1119.11
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
564.125	12269.7	-2.46729E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
4.24802E-04	-2.30461E-03	1.10688E-04
ANGLE ROT. X, RAD	ANGLE ROT. Y, RAD	ANGLE ROT. Z, RAD
5.92973E-07	4.80729E-06	2.92931E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  		<b>RADDOPPIO TRATTA APICE – ORSARA I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		<b>COMMESSA</b> IF1N	<b>LOTTO</b> 01 E ZZ	<b>CODIFICA</b> RG	<b>DOCUMENTO</b> MD0000 001	<b>REV.</b> B	<b>FOGLIO</b> 82 di 260

\* PILE TOP DISPLACEMENTS \*

PILE GROUP *****	DISP. X, M *****	DISP. Y, M *****	DISP. Z, M *****	ROT. X,RAD *****	ROT. Y,RAD *****	ROT. Z,RAD *****
1	2.5391E-04	-2.3094E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
2	2.4084E-04	-2.3077E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
3	2.2810E-04	-2.3062E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
4	2.1536E-04	-2.3046E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
5	2.0262E-04	-2.3030E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
6	1.8988E-04	-2.3015E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
7	1.7680E-04	-2.2998E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
8	6.7280E-04	-2.3094E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
9	6.5973E-04	-2.3077E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
10	6.4699E-04	-2.3062E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
11	6.3425E-04	-2.3046E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
12	6.2151E-04	-2.3030E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
13	6.0877E-04	-2.3015E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
14	5.9569E-04	-2.2998E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
15	2.2749E-04	-2.2994E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
16	3.0511E-04	-2.2994E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
17	3.8274E-04	-2.2994E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
18	4.6037E-04	-2.2994E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05
19	5.3799E-04	-2.2994E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
20	3.1161E-04	-2.3098E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
21	3.8924E-04	-2.3098E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
22	4.6687E-04	-2.3098E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
23	5.4449E-04	-2.3098E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05
24	6.2212E-04	-2.3098E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
25	2.5681E-04	-1.8929E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
26	3.3444E-04	-1.8929E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
27	4.1206E-04	-1.8929E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05
28	4.8969E-04	-1.8929E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05
29	5.6732E-04	-1.8929E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
30	2.8229E-04	-1.8961E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
31	3.5991E-04	-1.8961E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
32	4.3754E-04	-1.8961E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05
33	5.1517E-04	-1.8961E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05
34	5.9280E-04	-1.8961E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
MINIMUM	1.7680E-04	-2.3098E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.7280E-04	-1.8929E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP *****	FOR. X, KN *****	FOR. Y, KN *****	FOR. Z, KN *****	MOM X, KN- M *****	MOM Y, KN- M *****	MOM Z, KN- M *****
1	745.43	-648.00	56.073	0.4817	-216.30	-2119.4
2	707.05	-647.67	56.085	0.4817	-216.33	-2118.1
3	669.65	-647.35	56.097	0.4817	-216.36	-2116.9
4	632.25	-647.02	56.109	0.4817	-216.40	-2115.6
5	594.85	-646.70	56.121	0.4817	-216.43	-2114.4
6	557.45	-646.38	56.132	0.4817	-216.46	-2113.1
7	519.06	-646.05	56.144	0.4817	-216.49	-2111.8
8	1975.2	-647.74	51.007	0.4817	-194.19	-2119.6
9	1936.8	-647.41	51.018	0.4817	-194.22	-2118.3
10	1899.4	-647.09	51.029	0.4817	-194.25	-2117.0
11	1862.0	-646.77	51.040	0.4817	-194.28	-2115.8
12	1824.6	-646.44	51.050	0.4817	-194.30	-2114.5
13	1787.2	-646.12	51.061	0.4817	-194.33	-2113.3
14	1748.8	-645.79	51.072	0.4817	-194.36	-2112.0
15	667.85	-1134.7	26.384	0.4817	-80.523	-4903.6
16	895.75	-1134.7	25.957	0.4817	-79.087	-4903.6
17	1123.6	-1134.7	25.529	0.4817	-77.651	-4903.6
18	1351.5	-1134.6	25.102	0.4817	-76.215	-4903.7
19	1579.4	-1134.6	24.675	0.4817	-74.779	-4903.7
20	914.84	-1138.5	26.344	0.4817	-80.440	-4923.0
21	1142.7	-1138.5	25.917	0.4817	-79.005	-4923.1
22	1370.6	-1138.4	25.490	0.4817	-77.571	-4923.1
23	1598.5	-1138.4	25.063	0.4817	-76.136	-4923.1
24	1826.4	-1138.3	24.636	0.4817	-74.701	-4923.1
25	1014.7	-1444.2	12.634	0.3172	-27.305	-5550.2
26	1321.4	-1444.1	12.017	0.3172	-25.479	-5550.2
27	1628.1	-1444.0	11.400	0.3172	-23.654	-5550.1
28	1934.8	-1444.0	10.783	0.3172	-21.829	-5550.1
29	2241.5	-1443.9	10.167	0.3172	-20.004	-5550.1
30	1115.3	-1446.3	12.627	0.3172	-27.294	-5559.4
31	1422.0	-1446.2	12.011	0.3172	-25.469	-5559.4
32	1728.7	-1446.1	11.394	0.3172	-23.644	-5559.4
33	2035.4	-1446.1	10.777	0.3172	-21.820	-5559.4
34	2342.1	-1446.0	10.161	0.3172	-19.995	-5559.4
MINIMUM	519.06	-1446.3	10.161	0.3172	-216.49	-5559.4
Pile N.	7	30	34	25	7	30
MAXIMUM	2342.1	-645.79	56.144	0.4817	-19.995	-2111.8
Pile N.	34	14	7	1	34	7

<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  		<b>RADDOPPIO TRATTA APICE – ORSARA I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 83 di 260

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
1	2.5391E-04	-2.3094E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
2	2.4084E-04	-2.3077E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
3	2.2810E-04	-2.3062E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
4	2.1536E-04	-2.3046E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
5	2.0262E-04	-2.3030E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
6	1.8988E-04	-2.3015E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
7	1.7680E-04	-2.2998E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
8	6.7280E-04	-2.3094E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
9	6.5973E-04	-2.3077E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
10	6.4699E-04	-2.3062E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
11	6.3425E-04	-2.3046E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
12	6.2151E-04	-2.3030E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
13	6.0877E-04	-2.3015E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
14	5.9569E-04	-2.2998E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
15	2.2749E-04	-2.2994E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
16	3.0511E-04	-2.2994E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
17	3.8274E-04	-2.2994E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
18	4.6037E-04	-2.2994E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05
19	5.3799E-04	-2.2994E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
20	3.1161E-04	-2.3098E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
21	3.8924E-04	-2.3098E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
22	4.6687E-04	-2.3098E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
23	5.4449E-04	-2.3098E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05
24	6.2212E-04	-2.3098E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
25	2.5681E-04	-1.8929E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
26	3.3444E-04	-1.8929E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
27	4.1206E-04	-1.8929E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05
28	4.8969E-04	-1.8929E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05
29	5.6732E-04	-1.8929E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
30	2.8229E-04	-1.8961E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
31	3.5991E-04	-1.8961E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
32	4.3754E-04	-1.8961E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05
33	5.1517E-04	-1.8961E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05
34	5.9280E-04	-1.8961E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
MINIMUM	1.7680E-04	-2.3098E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
7		20	29	1	1	1
MAXIMUM	6.7280E-04	-1.8929E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
8		25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	745.43	-648.00	56.073	0.4817	-216.30	-2119.4
2	707.05	-647.67	56.085	0.4817	-216.33	-2118.1
3	669.65	-647.35	56.097	0.4817	-216.36	-2116.9
4	632.25	-647.02	56.109	0.4817	-216.40	-2115.6
5	594.85	-646.70	56.121	0.4817	-216.43	-2114.4
6	557.45	-646.38	56.132	0.4817	-216.46	-2113.1
7	519.06	-646.05	56.144	0.4817	-216.49	-2111.8
8	1975.2	-647.74	51.007	0.4817	-194.19	-2119.6
9	1936.8	-647.41	51.018	0.4817	-194.22	-2118.3
10	1899.4	-647.09	51.029	0.4817	-194.25	-2117.0
11	1862.0	-646.77	51.040	0.4817	-194.28	-2115.8
12	1824.6	-646.44	51.050	0.4817	-194.30	-2114.5
13	1787.2	-646.12	51.061	0.4817	-194.33	-2113.3
14	1748.8	-645.79	51.072	0.4817	-194.36	-2112.0
15	667.85	-1134.7	26.384	0.4817	-80.523	-4903.6
16	895.75	-1134.7	25.957	0.4817	-79.087	-4903.6
17	1123.6	-1134.7	25.529	0.4817	-77.651	-4903.6
18	1351.5	-1134.6	25.102	0.4817	-76.215	-4903.7
19	1579.4	-1134.6	24.675	0.4817	-74.779	-4903.7
20	914.84	-1138.5	26.344	0.4817	-80.440	-4923.0
21	1142.7	-1138.5	25.917	0.4817	-79.005	-4923.1
22	1370.6	-1138.4	25.490	0.4817	-77.571	-4923.1
23	1598.5	-1138.4	25.063	0.4817	-76.136	-4923.1
24	1826.4	-1138.3	24.636	0.4817	-74.701	-4923.1
25	1014.7	-1444.2	12.634	0.3172	-27.305	-5550.2
26	1321.4	-1444.1	12.017	0.3172	-25.479	-5550.2
27	1628.1	-1444.0	11.400	0.3172	-23.654	-5550.1
28	1934.8	-1444.0	10.783	0.3172	-21.829	-5550.1
29	2241.5	-1443.9	10.167	0.3172	-20.004	-5550.1
30	1115.3	-1446.3	12.627	0.3172	-27.294	-5559.4
31	1422.0	-1446.2	12.011	0.3172	-25.469	-5559.4
32	1728.7	-1446.1	11.394	0.3172	-23.644	-5559.4
33	2035.4	-1446.1	10.777	0.3172	-21.820	-5559.4
34	2342.1	-1446.0	10.161	0.3172	-19.995	-5559.4

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandataria

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	84 di 260

MINIMUM	519.06	-1446.3	10.161	0.3172	-216.49	-5559.4
Pile N.	7	30	34	25	7	30
MAXIMUM	2342.1	-645.79	56.144	0.4817	-19.995	-2111.8
Pile N.	34	14	7	1	34	7

PILE GROUP STRESS, KN/ M\*\*2

PILE GROUP	STRESS, KN/ M**2
1	6003.2
2	5986.9
3	5971.0
4	5955.1
5	5939.2
6	5923.3
7	5907.0
8	6413.2
9	6396.9
10	6381.0
11	6365.1
12	6349.2
13	6333.4
14	6317.1
15	3297.2
16	3372.9
17	3448.6
18	3524.3
19	3600.0
20	3391.6
21	3467.3
22	3543.0
23	3618.7
24	3694.4
25	3810.1
26	3912.3
27	4014.4
28	4116.5
29	4218.7
30	3849.5
31	3951.6
32	4053.7
33	4155.9
34	4258.0
MINIMUM	3297.2
Pile N.	15
MAXIMUM	6413.2
Pile N.	8

\* EFFECTS FOR LATERALLY LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2	FLEX. RIG. KN- M**2	FLEX. RIG. y-DIR KN- M**2
1	-2.3094E-03	-2.7169E-06	-741.30	-216.30	-648.03	-14.236	-155.43	-2.3068	248.48	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
2	-2.3078E-03	-2.7172E-06	-740.87	-216.33	-647.70	-14.237	-155.37	-2.3070	235.68	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
3	-2.3062E-03	-2.7175E-06	-740.46	-216.36	-647.38	-14.238	-155.30	-2.3072	223.22	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
4	-2.3046E-03	-2.7179E-06	-740.05	-216.40	-647.05	-14.238	-155.24	-2.3074	210.75	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
5	-2.3030E-03	-2.7182E-06	-739.63	-216.43	-646.73	-14.239	-155.17	-2.3075	198.28	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
6	-2.3015E-03	-2.7185E-06	-739.22	-216.46	-646.41	-14.240	-155.11	-2.3077	185.82	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
7	-2.2999E-03	-2.7188E-06	-738.79	-216.49	-646.08	-14.241	-155.04	-2.3079	173.02	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
8	-2.3094E-03	-2.5154E-06	-741.60	-194.19	-647.83	-13.142	-155.44	-2.1306	658.41	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.000	5.0000	15.500	50.000	0.0000	0.0000
9	-2.3078E-03	-2.5157E-06	-741.18	-194.22	-647.50	-13.144	-155.38	-2.1308	645.61	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.000	5.0000	15.500	50.000	0.0000	0.0000
10	-2.3062E-03	-2.5160E-06	-740.76	-194.25	-647.18	-13.145	-155.31	-2.1309	633.14	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.000	5.0000	15.500	50.000	0.0000	0.0000
11	-2.3046E-03	-2.5163E-06	-740.35	-194.28	-646.85	-13.146	-155.25	-2.1311	620.68	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.000	5.0000	15.500	50.000	0.0000	0.0000
12	-2.3030E-03	-2.5166E-06	-739.93	-194.30	-646.53	-13.147	-155.18	-2.1312	608.21	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.000	5.0000	15.500	50.000	0.0000	0.0000
13	-2.3015E-03	-2.5169E-06	-739.52	-194.33	-646.21	-13.148	-155.11	-2.1314	595.74	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.000	5.0000	15.500	50.000	0.0000	0.0000
14	-2.2999E-03	-2.5172E-06	-739.09	-194.36	-645.88	-13.149	-155.05	-2.1316	582.95	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.000	5.0000	15.500	50.000	0.0000	0.0000
15	-2.2994E-03	-1.9400E-06	-1627.1	-80.523	-1134.8	-5.8559	-194.02	-1.3668	222.62	4.9219E+07	1.1340E+07
x( M)	0.0000	12.500	9.5000	0.0000	10.500	5.5000	5.0000	13.000	50.000	0.0000	0.0000
16	-2.2994E-03	-1.9136E-06	-1627.1	-79.087	-1134.7	-5.7724	-194.02	-1.3474	298.58	4.9219E+07	1.1340E+07
x( M)	0.0000	12.500	9.5000	0.0000	10.500	5.5000	5.0000	13.000	50.000	0.0000	0.0000
17	-2.2994E-03	-1.8872E-06	-1627.2	-77.651	-1134.7	-5.6890	-194.02	-1.3280	374.55	4.9219E+07	1.1340E+07



APPALTATORE:

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ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandataria



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RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	86 di 260

x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
23	4.6097E-05	1.0912E-04	4923.1	29.792	247.19	25.066	45.275	6.0802	3618.7	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
24	4.6102E-05	1.0754E-04	4923.1	29.353	247.20	24.639	45.276	5.9816	3694.4	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
25	3.8639E-05	4.6528E-05	5550.2	15.880	499.92	12.635	111.30	4.5255	3810.1	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
26	3.8641E-05	4.4957E-05	5550.2	15.280	499.94	12.018	111.31	4.2849	3912.3	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
27	3.8643E-05	4.3386E-05	5550.1	14.679	499.96	11.401	111.31	4.0443	4014.4	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
28	3.8645E-05	4.1814E-05	5550.1	14.078	499.98	10.784	111.32	3.8038	4116.5	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
29	3.8647E-05	4.0243E-05	5550.1	13.500	500.00	10.167	111.32	3.5633	4218.7	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.1200	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
30	3.8705E-05	4.6528E-05	5559.4	15.879	500.78	12.628	111.50	4.5275	3849.5	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
31	3.8707E-05	4.4957E-05	5559.4	15.278	500.81	12.011	111.50	4.2868	3951.6	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
32	3.8709E-05	4.3386E-05	5559.4	14.678	500.83	11.395	111.51	4.0461	4053.7	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
33	3.8711E-05	4.1814E-05	5559.4	14.077	500.85	10.778	111.51	3.8055	4155.9	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
34	3.8713E-05	4.0243E-05	5559.4	13.498	500.87	10.162	111.52	3.5649	4258.0	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.1200	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
Max.	5.1309E-05	1.1493E-04	5559.4	93.699	500.87	56.145	111.52	10.466	6413.2	4.9219E+07	4.9219E+07
Pile N.	8	1	30	7	34	7	34	7	8	15	1

LOAD CASE : 5  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
39677.2	-35990.8	930.021
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
469.710	9302.02	-2.36255E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
3.60802E-04	-2.45874E-03	9.15691E-05
ANGLE ROT. X,RAD	ANGLE ROT. Y,RAD	ANGLE ROT. Z,RAD
5.01127E-07	3.80157E-06	3.53711E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
*****	*****	*****	*****	*****	*****	*****
1	1.3839E-04	-2.4628E-03	9.5152E-05	5.0113E-07	3.8016E-06	3.5371E-05
2	1.2805E-04	-2.4614E-03	9.5152E-05	5.0113E-07	3.8016E-06	3.5371E-05
3	1.1797E-04	-2.4601E-03	9.5152E-05	5.0113E-07	3.8016E-06	3.5371E-05
4	1.0790E-04	-2.4587E-03	9.5152E-05	5.0113E-07	3.8016E-06	3.5371E-05
5	9.7825E-05	-2.4574E-03	9.5152E-05	5.0113E-07	3.8016E-06	3.5371E-05
6	8.7750E-05	-2.4561E-03	9.5152E-05	5.0113E-07	3.8016E-06	3.5371E-05
7	7.7410E-05	-2.4547E-03	9.5152E-05	5.0113E-07	3.8016E-06	3.5371E-05
8	6.4419E-04	-2.4628E-03	8.7986E-05	5.0113E-07	3.8016E-06	3.5371E-05
9	6.3385E-04	-2.4614E-03	8.7986E-05	5.0113E-07	3.8016E-06	3.5371E-05
10	6.2378E-04	-2.4601E-03	8.7986E-05	5.0113E-07	3.8016E-06	3.5371E-05
11	6.1371E-04	-2.4587E-03	8.7986E-05	5.0113E-07	3.8016E-06	3.5371E-05
12	6.0363E-04	-2.4574E-03	8.7986E-05	5.0113E-07	3.8016E-06	3.5371E-05
13	5.9356E-04	-2.4561E-03	8.7986E-05	5.0113E-07	3.8016E-06	3.5371E-05
14	5.8322E-04	-2.4547E-03	8.7986E-05	5.0113E-07	3.8016E-06	3.5371E-05
15	1.4007E-04	-2.4544E-03	9.4225E-05	5.0113E-07	3.8016E-06	3.5371E-05
16	2.3380E-04	-2.4544E-03	9.2897E-05	5.0113E-07	3.8016E-06	3.5371E-05
17	3.2754E-04	-2.4544E-03	9.1569E-05	5.0113E-07	3.8016E-06	3.5371E-05
18	4.2127E-04	-2.4544E-03	9.0241E-05	5.0113E-07	3.8016E-06	3.5371E-05
19	5.1501E-04	-2.4544E-03	8.8913E-05	5.0113E-07	3.8016E-06	3.5371E-05
20	2.0660E-04	-2.4631E-03	9.4225E-05	5.0113E-07	3.8016E-06	3.5371E-05
21	3.0033E-04	-2.4631E-03	9.2897E-05	5.0113E-07	3.8016E-06	3.5371E-05

APPALTATORE:

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RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	87 di 260

22	3.9407E-04	-2.4631E-03	9.1569E-05	5.0113E-07	3.8016E-06	3.5371E-05
23	4.8780E-04	-2.4631E-03	9.0241E-05	5.0113E-07	3.8016E-06	3.5371E-05
24	5.8153E-04	-2.4631E-03	8.8913E-05	5.0113E-07	3.8016E-06	3.5371E-05
25	1.6326E-04	-1.9622E-03	4.1003E-05	5.0113E-07	3.8016E-06	3.5371E-05
26	2.5699E-04	-1.9622E-03	3.9675E-05	5.0113E-07	3.8016E-06	3.5371E-05
27	3.5073E-04	-1.9622E-03	3.8347E-05	5.0113E-07	3.8016E-06	3.5371E-05
28	4.4446E-04	-1.9622E-03	3.7019E-05	5.0113E-07	3.8016E-06	3.5371E-05
29	5.3819E-04	-1.9622E-03	3.5691E-05	5.0113E-07	3.8016E-06	3.5371E-05
30	1.8341E-04	-1.9649E-03	4.1003E-05	5.0113E-07	3.8016E-06	3.5371E-05
31	2.7714E-04	-1.9649E-03	3.9675E-05	5.0113E-07	3.8016E-06	3.5371E-05
32	3.7088E-04	-1.9649E-03	3.8347E-05	5.0113E-07	3.8016E-06	3.5371E-05
33	4.6461E-04	-1.9649E-03	3.7019E-05	5.0113E-07	3.8016E-06	3.5371E-05
34	5.5834E-04	-1.9649E-03	3.5691E-05	5.0113E-07	3.8016E-06	3.5371E-05
MINIMUM	7.7410E-05	-2.4631E-03	3.5691E-05	5.0113E-07	3.8016E-06	3.5371E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.4419E-04	-1.9622E-03	9.5152E-05	5.0113E-07	3.8016E-06	3.5371E-05
Pile N.	8	25	1	1	1	1



\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
1	406.28	-675.38	46.108	0.4071	-180.07	-2213.7
2	375.92	-675.11	46.116	0.4071	-180.09	-2212.7
3	346.35	-674.84	46.123	0.4071	-180.11	-2211.6
4	316.77	-674.57	46.131	0.4071	-180.13	-2210.6
5	287.19	-674.31	46.139	0.4071	-180.15	-2209.5
6	257.62	-674.04	46.146	0.4071	-180.17	-2208.4
7	227.26	-673.77	46.154	0.4071	-180.19	-2207.4
8	1891.2	-675.01	41.889	0.4071	-161.56	-2213.8
9	1860.9	-674.73	41.896	0.4071	-161.58	-2212.7
10	1831.3	-674.47	41.903	0.4071	-161.60	-2211.7
11	1801.7	-674.20	41.910	0.4071	-161.62	-2210.6
12	1772.1	-673.93	41.917	0.4071	-161.64	-2209.6
13	1742.6	-673.67	41.924	0.4071	-161.65	-2208.5
14	1712.2	-673.39	41.931	0.4071	-161.67	-2207.5
15	411.22	-1179.9	21.598	0.4071	-66.633	-5102.8
16	686.41	-1179.8	21.242	0.4071	-65.434	-5102.8
17	961.59	-1179.8	20.887	0.4071	-64.234	-5102.8
18	1236.8	-1179.7	20.531	0.4071	-63.034	-5102.8
19	1512.0	-1179.7	20.176	0.4071	-61.835	-5102.8
20	606.54	-1183.0	21.571	0.4071	-66.579	-5119.0
21	881.72	-1182.9	21.216	0.4071	-65.380	-5119.0
22	1156.9	-1182.9	20.861	0.4071	-64.181	-5119.0
23	1432.1	-1182.8	20.506	0.4071	-62.983	-5119.0
24	1707.3	-1182.8	20.151	0.4071	-61.784	-5119.0
25	645.05	-1472.9	11.537	0.2681	-26.311	-5638.8
26	1015.4	-1472.8	11.019	0.2681	-24.775	-5638.8
27	1385.7	-1472.7	10.502	0.2681	-23.239	-5638.8
28	1756.1	-1472.7	9.9839	0.2681	-21.704	-5638.8
29	2126.4	-1472.6	9.4664	0.2681	-20.168	-5638.7
30	724.65	-1474.6	11.532	0.2681	-26.303	-5646.6
31	1095.0	-1474.6	11.015	0.2681	-24.768	-5646.6
32	1465.3	-1474.5	10.497	0.2681	-23.232	-5646.6
33	1835.7	-1474.4	9.9795	0.2681	-21.697	-5646.6
34	2206.0	-1474.3	9.4621	0.2681	-20.161	-5646.6
MINIMUM	227.26	-1474.6	9.4621	0.2681	-180.19	-5646.6
Pile N.	7	30	34	25	7	30
MAXIMUM	2206.0	-673.39	46.154	0.4071	-20.161	-2207.4
Pile N.	34	14	7	1	34	7

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
1	1.3839E-04	-2.4628E-03	9.5152E-05	5.0113E-07	3.8016E-06	3.5371E-05
2	1.2805E-04	-2.4614E-03	9.5152E-05	5.0113E-07	3.8016E-06	3.5371E-05
3	1.1797E-04	-2.4601E-03	9.5152E-05	5.0113E-07	3.8016E-06	3.5371E-05
4	1.0790E-04	-2.4587E-03	9.5152E-05	5.0113E-07	3.8016E-06	3.5371E-05
5	9.7825E-05	-2.4574E-03	9.5152E-05	5.0113E-07	3.8016E-06	3.5371E-05
6	8.7750E-05	-2.4561E-03	9.5152E-05	5.0113E-07	3.8016E-06	3.5371E-05
7	7.7410E-05	-2.4547E-03	9.5152E-05	5.0113E-07	3.8016E-06	3.5371E-05
8	6.4419E-04	-2.4628E-03	8.7986E-05	5.0113E-07	3.8016E-06	3.5371E-05
9	6.3385E-04	-2.4614E-03	8.7986E-05	5.0113E-07	3.8016E-06	3.5371E-05
10	6.2378E-04	-2.4601E-03	8.7986E-05	5.0113E-07	3.8016E-06	3.5371E-05
11	6.1371E-04	-2.4587E-03	8.7986E-05	5.0113E-07	3.8016E-06	3.5371E-05
12	6.0363E-04	-2.4574E-03	8.7986E-05	5.0113E-07	3.8016E-06	3.5371E-05
13	5.9356E-04	-2.4561E-03	8.7986E-05	5.0113E-07	3.8016E-06	3.5371E-05
14	5.8322E-04	-2.4547E-03	8.7986E-05	5.0113E-07	3.8016E-06	3.5371E-05
15	1.4007E-04	-2.4544E-03	9.4225E-05	5.0113E-07	3.8016E-06	3.5371E-05
16	2.3380E-04	-2.4544E-03	9.2897E-05	5.0113E-07	3.8016E-06	3.5371E-05
17	3.2754E-04	-2.4544E-03	9.1569E-05	5.0113E-07	3.8016E-06	3.5371E-05

<b>APPALTATORE:</b> Consorzio <b>Soci</b>   		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>							

18	4.2127E-04	-2.4544E-03	9.0241E-05	5.0113E-07	3.8016E-06	3.5371E-05
19	5.1501E-04	-2.4544E-03	8.8913E-05	5.0113E-07	3.8016E-06	3.5371E-05
20	2.0660E-04	-2.4631E-03	9.4225E-05	5.0113E-07	3.8016E-06	3.5371E-05
21	3.0033E-04	-2.4631E-03	9.2897E-05	5.0113E-07	3.8016E-06	3.5371E-05
22	3.9407E-04	-2.4631E-03	9.1569E-05	5.0113E-07	3.8016E-06	3.5371E-05
23	4.8780E-04	-2.4631E-03	9.0241E-05	5.0113E-07	3.8016E-06	3.5371E-05
24	5.8153E-04	-2.4631E-03	8.8913E-05	5.0113E-07	3.8016E-06	3.5371E-05
25	1.6326E-04	-1.9622E-03	4.1003E-05	5.0113E-07	3.8016E-06	3.5371E-05
26	2.5699E-04	-1.9622E-03	3.9675E-05	5.0113E-07	3.8016E-06	3.5371E-05
27	3.5073E-04	-1.9622E-03	3.8347E-05	5.0113E-07	3.8016E-06	3.5371E-05
28	4.4446E-04	-1.9622E-03	3.7019E-05	5.0113E-07	3.8016E-06	3.5371E-05
29	5.3819E-04	-1.9622E-03	3.5691E-05	5.0113E-07	3.8016E-06	3.5371E-05
30	1.8341E-04	-1.9649E-03	4.1003E-05	5.0113E-07	3.8016E-06	3.5371E-05
31	2.7714E-04	-1.9649E-03	3.9675E-05	5.0113E-07	3.8016E-06	3.5371E-05
32	3.7088E-04	-1.9649E-03	3.8347E-05	5.0113E-07	3.8016E-06	3.5371E-05
33	4.6461E-04	-1.9649E-03	3.7019E-05	5.0113E-07	3.8016E-06	3.5371E-05
34	5.5834E-04	-1.9649E-03	3.5691E-05	5.0113E-07	3.8016E-06	3.5371E-05
MINIMUM	7.7410E-05	-2.4631E-03	3.5691E-05	5.0113E-07	3.8016E-06	3.5371E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.4419E-04	-1.9622E-03	9.5152E-05	5.0113E-07	3.8016E-06	3.5371E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*




PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
1	406.28	-675.38	46.108	0.4071	-180.07	-2213.7
2	375.92	-675.11	46.116	0.4071	-180.09	-2212.7
3	346.35	-674.84	46.123	0.4071	-180.11	-2211.6
4	316.77	-674.57	46.131	0.4071	-180.13	-2210.6
5	287.19	-674.31	46.139	0.4071	-180.15	-2209.5
6	257.62	-674.04	46.146	0.4071	-180.17	-2208.4
7	227.26	-673.77	46.154	0.4071	-180.19	-2207.4
8	1891.2	-675.01	41.889	0.4071	-161.56	-2213.8
9	1860.9	-674.73	41.896	0.4071	-161.58	-2212.7
10	1831.3	-674.47	41.903	0.4071	-161.60	-2211.7
11	1801.7	-674.20	41.910	0.4071	-161.62	-2210.6
12	1772.1	-673.93	41.917	0.4071	-161.64	-2209.6
13	1742.6	-673.67	41.924	0.4071	-161.65	-2208.5
14	1712.2	-673.39	41.931	0.4071	-161.67	-2207.5
15	411.22	-1179.9	21.598	0.4071	-66.633	-5102.8
16	686.41	-1179.8	21.242	0.4071	-65.434	-5102.8
17	961.59	-1179.8	20.887	0.4071	-64.234	-5102.8
18	1236.8	-1179.7	20.531	0.4071	-63.034	-5102.8
19	1512.0	-1179.7	20.176	0.4071	-61.835	-5102.8
20	606.54	-1183.0	21.571	0.4071	-66.579	-5119.0
21	881.72	-1182.9	21.216	0.4071	-65.380	-5119.0
22	1156.9	-1182.9	20.861	0.4071	-64.181	-5119.0
23	1432.1	-1182.8	20.506	0.4071	-62.983	-5119.0
24	1707.3	-1182.8	20.151	0.4071	-61.784	-5119.0
25	645.05	-1472.9	11.537	0.2681	-26.311	-5638.8
26	1015.4	-1472.8	11.019	0.2681	-24.775	-5638.8
27	1385.7	-1472.7	10.502	0.2681	-23.239	-5638.8
28	1756.1	-1472.7	9.9839	0.2681	-21.704	-5638.8
29	2126.4	-1472.6	9.4664	0.2681	-20.168	-5638.7
30	724.65	-1474.6	11.532	0.2681	-26.303	-5646.6
31	1095.0	-1474.6	11.015	0.2681	-24.768	-5646.6
32	1465.3	-1474.5	10.497	0.2681	-23.232	-5646.6
33	1835.7	-1474.4	9.9795	0.2681	-21.697	-5646.6
34	2206.0	-1474.3	9.4621	0.2681	-20.161	-5646.6
MINIMUM	227.26	-1474.6	9.4621	0.2681	-180.19	-5646.6
Pile N.	7	30	34	25	7	30
MAXIMUM	2206.0	-673.39	46.154	0.4071	-20.161	-2207.4
Pile N.	34	14	7	1	34	7

PILE GROUP	STRESS, KN/ M**2
1	6145.6
2	6132.5
3	6119.8
4	6107.1
5	6094.3
6	6081.6
7	6068.6
8	6640.6
9	6627.5
10	6614.8
11	6602.1
12	6589.4
13	6576.7
14	6563.6
15	3333.5
16	3425.1
17	3516.6
18	3608.2
19	3699.7







APPALTATORE: Consorzio  Soci  	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
PROGETTAZIONE: Mandataria  Mandanti  					
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B					
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	91 di 260

Max. Pile N.	5.3801E-05 8	9.5152E-05 1	5646.6 30	77.114 7	516.57 34	46.154 7	115.00 34	8.4772 7	6640.6 8	4.9219E+07 15	4.9219E+07 1
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LOAD CASE : 6  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
46715.3	-34872.8	1119.11
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
564.125	12269.7	-2.46729E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
4.24802E-04	-2.30461E-03	1.10688E-04
ANGLE ROT. X, RAD	ANGLE ROT. Y, RAD	ANGLE ROT. Z, RAD
5.92973E-07	4.80729E-06	2.92931E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
*****	*****	*****	*****	*****	*****	*****
1	2.5391E-04	-2.3094E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
2	2.4084E-04	-2.3077E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
3	2.2810E-04	-2.3062E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
4	2.1536E-04	-2.3046E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
5	2.0262E-04	-2.3030E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
6	1.8988E-04	-2.3015E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
7	1.7680E-04	-2.2998E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
8	6.7280E-04	-2.3094E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
9	6.5973E-04	-2.3077E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
10	6.4699E-04	-2.3062E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
11	6.3425E-04	-2.3046E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
12	6.2151E-04	-2.3030E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
13	6.0877E-04	-2.3015E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
14	5.9569E-04	-2.2998E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
15	2.2749E-04	-2.2994E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
16	3.0511E-04	-2.2994E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
17	3.8274E-04	-2.2994E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
18	4.6037E-04	-2.2994E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05
19	5.3799E-04	-2.2994E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
20	3.1161E-04	-2.3098E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
21	3.8924E-04	-2.3098E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
22	4.6687E-04	-2.3098E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
23	5.4449E-04	-2.3098E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05
24	6.2212E-04	-2.3098E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
25	2.5681E-04	-1.8929E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
26	3.3444E-04	-1.8929E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
27	4.1206E-04	-1.8929E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05
28	4.8969E-04	-1.8929E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05
29	5.6732E-04	-1.8929E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
30	2.8229E-04	-1.8961E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
31	3.5991E-04	-1.8961E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
32	4.3754E-04	-1.8961E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05
33	5.1517E-04	-1.8961E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05
34	5.9280E-04	-1.8961E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
MINIMUM	1.7680E-04	-2.3098E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.7280E-04	-1.8929E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	745.43	-648.00	56.073	0.4817	-216.30	-2119.4
2	707.05	-647.67	56.085	0.4817	-216.33	-2118.1
3	669.65	-647.35	56.097	0.4817	-216.36	-2116.9

## APPALTATORE:

Consorzio



Soci



## ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

## PROGETTAZIONE:

Mandatario



Mandanti



## PROGETTO ESECUTIVO

## RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA  
IF1NLOTTO  
01 E ZZCODIFICA  
RGDOCUMENTO  
MD0000 001REV.  
BFOGLIO  
92 di 260

4	632.25	-647.02	56.109	0.4817	-216.40	-2115.6
5	594.85	-646.70	56.121	0.4817	-216.43	-2114.4
6	557.45	-646.38	56.132	0.4817	-216.46	-2113.1
7	519.06	-646.05	56.144	0.4817	-216.49	-2111.8
8	1975.2	-647.74	51.007	0.4817	-194.19	-2119.6
9	1936.8	-647.41	51.018	0.4817	-194.22	-2118.3
10	1899.4	-647.09	51.029	0.4817	-194.25	-2117.0
11	1862.0	-646.77	51.040	0.4817	-194.28	-2115.8
12	1824.6	-646.44	51.050	0.4817	-194.30	-2114.5
13	1787.2	-646.12	51.061	0.4817	-194.33	-2113.3
14	1748.8	-645.79	51.072	0.4817	-194.36	-2112.0
15	667.85	-1134.7	26.384	0.4817	-80.523	-4903.6
16	895.75	-1134.7	25.957	0.4817	-79.087	-4903.6
17	1123.6	-1134.7	25.529	0.4817	-77.651	-4903.6
18	1351.5	-1134.6	25.102	0.4817	-76.215	-4903.7
19	1579.4	-1134.6	24.675	0.4817	-74.779	-4903.7
20	914.84	-1138.5	26.344	0.4817	-80.440	-4923.0
21	1142.7	-1138.5	25.917	0.4817	-79.005	-4923.1
22	1370.6	-1138.4	25.490	0.4817	-77.571	-4923.1
23	1598.5	-1138.4	25.063	0.4817	-76.136	-4923.1
24	1826.4	-1138.3	24.636	0.4817	-74.701	-4923.1
25	1014.7	-1444.2	12.634	0.3172	-27.305	-5550.2
26	1321.4	-1444.1	12.017	0.3172	-25.479	-5550.2
27	1628.1	-1444.0	11.400	0.3172	-23.654	-5550.1
28	1934.8	-1444.0	10.783	0.3172	-21.829	-5550.1
29	2241.5	-1443.9	10.167	0.3172	-20.004	-5550.1
30	1115.3	-1446.3	12.627	0.3172	-27.294	-5559.4
31	1422.0	-1446.2	12.011	0.3172	-25.469	-5559.4
32	1728.7	-1446.1	11.394	0.3172	-23.644	-5559.4
33	2035.4	-1446.1	10.777	0.3172	-21.820	-5559.4
34	2342.1	-1446.0	10.161	0.3172	-19.995	-5559.4
MINIMUM	519.06	-1446.3	10.161	0.3172	-216.49	-5559.4
Pile N.	7	30	34	25	7	30
MAXIMUM	2342.1	-645.79	56.144	0.4817	-19.995	-2111.8
Pile N.	34	14	7	1	34	7

## THE PILE COORDINATE SYSTEM (LOCAL AXES)

## \* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
1	2.5391E-04	-2.3094E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
2	2.4084E-04	-2.3077E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
3	2.2810E-04	-2.3062E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
4	2.1536E-04	-2.3046E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
5	2.0262E-04	-2.3030E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
6	1.8988E-04	-2.3015E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
7	1.7680E-04	-2.2998E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
8	6.7280E-04	-2.3094E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
9	6.5973E-04	-2.3077E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
10	6.4699E-04	-2.3062E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
11	6.3425E-04	-2.3046E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
12	6.2151E-04	-2.3030E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
13	6.0877E-04	-2.3015E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
14	5.9569E-04	-2.2998E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
15	2.2749E-04	-2.2994E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
16	3.0511E-04	-2.2994E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
17	3.8274E-04	-2.2994E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
18	4.6037E-04	-2.2994E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05
19	5.3799E-04	-2.2994E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
20	3.1161E-04	-2.3098E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
21	3.8924E-04	-2.3098E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
22	4.6687E-04	-2.3098E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
23	5.4449E-04	-2.3098E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05
24	6.2212E-04	-2.3098E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
25	2.5681E-04	-1.8929E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
26	3.3444E-04	-1.8929E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
27	4.1206E-04	-1.8929E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05
28	4.8969E-04	-1.8929E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05
29	5.6732E-04	-1.8929E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
30	2.8229E-04	-1.8961E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
31	3.5991E-04	-1.8961E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
32	4.3754E-04	-1.8961E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05
33	5.1517E-04	-1.8961E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05
34	5.9280E-04	-1.8961E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
MINIMUM	1.7680E-04	-2.3098E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.7280E-04	-1.8929E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	8	25	1	1	1	1

## \* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
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<b>APPALTATORE:</b> Consorzio <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
<b>COMMESSA</b> IF1N	<b>LOTTO</b> 01 E ZZ	<b>CODIFICA</b> RG	<b>DOCUMENTO</b> MD0000 001	<b>REV.</b> B	<b>FOGLIO</b> 93 di 260

*****	*****	*****	*****	*****	*****	*****
1	745.43	-648.00	56.073	0.4817	-216.30	-2119.4
2	707.05	-647.67	56.085	0.4817	-216.33	-2118.1
3	669.65	-647.35	56.097	0.4817	-216.36	-2116.9
4	632.25	-647.02	56.109	0.4817	-216.40	-2115.6
5	594.85	-646.70	56.121	0.4817	-216.43	-2114.4
6	557.45	-646.38	56.132	0.4817	-216.46	-2113.1
7	519.06	-646.05	56.144	0.4817	-216.49	-2111.8
8	1975.2	-647.74	51.007	0.4817	-194.19	-2119.6
9	1936.8	-647.41	51.018	0.4817	-194.22	-2118.3
10	1899.4	-647.09	51.029	0.4817	-194.25	-2117.0
11	1862.0	-646.77	51.040	0.4817	-194.28	-2115.8
12	1824.6	-646.44	51.050	0.4817	-194.30	-2114.5
13	1787.2	-646.12	51.061	0.4817	-194.33	-2113.3
14	1748.8	-645.79	51.072	0.4817	-194.36	-2112.0
15	667.85	-1134.7	26.384	0.4817	-80.523	-4903.6
16	895.75	-1134.7	25.957	0.4817	-79.087	-4903.6
17	1123.6	-1134.7	25.529	0.4817	-77.651	-4903.6
18	1351.5	-1134.6	25.102	0.4817	-76.215	-4903.7
19	1579.4	-1134.6	24.675	0.4817	-74.779	-4903.7
20	914.84	-1138.5	26.344	0.4817	-80.440	-4923.0
21	1142.7	-1138.5	25.917	0.4817	-79.005	-4923.1
22	1370.6	-1138.4	25.490	0.4817	-77.571	-4923.1
23	1598.5	-1138.4	25.063	0.4817	-76.136	-4923.1
24	1826.4	-1138.3	24.636	0.4817	-74.701	-4923.1
25	1014.7	-1444.2	12.634	0.3172	-27.305	-5550.2
26	1321.4	-1444.1	12.017	0.3172	-25.479	-5550.2
27	1628.1	-1444.0	11.400	0.3172	-23.654	-5550.1
28	1934.8	-1444.0	10.783	0.3172	-21.829	-5550.1
29	2241.5	-1443.9	10.167	0.3172	-20.004	-5550.1
30	1115.3	-1446.3	12.627	0.3172	-27.294	-5559.4
31	1422.0	-1446.2	12.011	0.3172	-25.469	-5559.4
32	1728.7	-1446.1	11.394	0.3172	-23.644	-5559.4
33	2035.4	-1446.1	10.777	0.3172	-21.820	-5559.4
34	2342.1	-1446.0	10.161	0.3172	-19.995	-5559.4
MINIMUM	519.06	-1446.3	10.161	0.3172	-216.49	-5559.4
Pile N.	7	30	34	25	7	30
MAXIMUM	2342.1	-645.79	56.144	0.4817	-19.995	-2111.8
Pile N.	34	14	7	1	34	7

PILE GROUP STRESS, KN/ M\*\*2  
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1	6003.2
2	5986.9
3	5971.0
4	5955.1
5	5939.2
6	5923.3
7	5907.0
8	6413.2
9	6396.9
10	6381.0
11	6365.1
12	6349.2
13	6333.4
14	6317.1
15	3297.2
16	3372.9
17	3448.6
18	3524.3
19	3600.0
20	3391.6
21	3467.3
22	3543.0
23	3618.7
24	3694.4
25	3810.1
26	3912.3
27	4014.4
28	4116.5
29	4218.7
30	3849.5
31	3951.6
32	4053.7
33	4155.9
34	4258.0
MINIMUM	3297.2
Pile N.	15
MAXIMUM	6413.2
Pile N.	8

\* EFFECTS FOR LATERALLY LOADED PILE \*  
\* MINIMUM VALUES AND LOCATIONS \*

PILE DISPL. DISPL. MOMENT MOMENT SHEAR SHEAR SOIL REACT SOIL REACT TOTAL FLEX. RIG. FLEX. RIG.





<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span>   		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span>   							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 96 di 260

VERTICAL , M                      HORIZONTAL Y, M                      HORIZONTAL Z, M  
 4.24802E-04                      -2.30461E-03                      1.10688E-04  
  
 ANGLE ROT. X,RAD                      ANGLE ROT. Y,RAD                      ANGLE ROT. Z,RAD  
 5.92973E-07                      4.80729E-06                      2.92931E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
*****	*****	*****	*****	*****	*****	*****
1	2.5391E-04	-2.3094E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
2	2.4084E-04	-2.3077E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
3	2.2810E-04	-2.3062E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
4	2.1536E-04	-2.3046E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
5	2.0262E-04	-2.3030E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
6	1.8988E-04	-2.3015E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
7	1.7680E-04	-2.2998E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
8	6.7280E-04	-2.3094E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
9	6.5973E-04	-2.3077E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
10	6.4699E-04	-2.3062E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
11	6.3425E-04	-2.3046E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
12	6.2151E-04	-2.3030E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
13	6.0877E-04	-2.3015E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
14	5.9569E-04	-2.2998E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
15	2.2749E-04	-2.2994E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
16	3.0511E-04	-2.2994E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
17	3.8274E-04	-2.2994E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
18	4.6037E-04	-2.2994E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05
19	5.3799E-04	-2.2994E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
20	3.1161E-04	-2.3098E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
21	3.8924E-04	-2.3098E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
22	4.6687E-04	-2.3098E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
23	5.4449E-04	-2.3098E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05
24	6.2212E-04	-2.3098E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
25	2.5681E-04	-1.8929E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
26	3.3444E-04	-1.8929E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
27	4.1206E-04	-1.8929E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05
28	4.8969E-04	-1.8929E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05
29	5.6732E-04	-1.8929E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
30	2.8229E-04	-1.8961E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
31	3.5991E-04	-1.8961E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
32	4.3754E-04	-1.8961E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05
33	5.1517E-04	-1.8961E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05
34	5.9280E-04	-1.8961E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
MINIMUM	1.7680E-04	-2.3098E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.7280E-04	-1.8929E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	745.43	-648.00	56.073	0.4817	-216.30	-2119.4
2	707.05	-647.67	56.085	0.4817	-216.33	-2118.1
3	669.65	-647.35	56.097	0.4817	-216.36	-2116.9
4	632.25	-647.02	56.109	0.4817	-216.40	-2115.6
5	594.85	-646.70	56.121	0.4817	-216.43	-2114.4
6	557.45	-646.38	56.132	0.4817	-216.46	-2113.1
7	519.06	-646.05	56.144	0.4817	-216.49	-2111.8
8	1975.2	-647.74	51.007	0.4817	-194.19	-2119.6
9	1936.8	-647.41	51.018	0.4817	-194.22	-2118.3
10	1899.4	-647.09	51.029	0.4817	-194.25	-2117.0
11	1862.0	-646.77	51.040	0.4817	-194.28	-2115.8
12	1824.6	-646.44	51.050	0.4817	-194.30	-2114.5
13	1787.2	-646.12	51.061	0.4817	-194.33	-2113.3
14	1748.8	-645.79	51.072	0.4817	-194.36	-2112.0
15	667.85	-1134.7	26.384	0.4817	-80.523	-4903.6
16	895.75	-1134.7	25.957	0.4817	-79.087	-4903.6
17	1123.6	-1134.7	25.529	0.4817	-77.651	-4903.6
18	1351.5	-1134.6	25.102	0.4817	-76.215	-4903.7
19	1579.4	-1134.6	24.675	0.4817	-74.779	-4903.7
20	914.84	-1138.5	26.344	0.4817	-80.440	-4923.0
21	1142.7	-1138.5	25.917	0.4817	-79.005	-4923.1
22	1370.6	-1138.4	25.490	0.4817	-77.571	-4923.1
23	1598.5	-1138.4	25.063	0.4817	-76.136	-4923.1
24	1826.4	-1138.3	24.636	0.4817	-74.701	-4923.1
25	1014.7	-1444.2	12.634	0.3172	-27.305	-5550.2
26	1321.4	-1444.1	12.017	0.3172	-25.479	-5550.2
27	1628.1	-1444.0	11.400	0.3172	-23.654	-5550.1
28	1934.8	-1444.0	10.783	0.3172	-21.829	-5550.1
29	2241.5	-1443.9	10.167	0.3172	-20.004	-5550.1



## APPALTATORE:

Consorzio

Soci



## ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

## PROGETTAZIONE:

Mandatario

Mandanti



## PROGETTO ESECUTIVO

## RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA  
IF1NLOTTO  
01 E ZZCODIFICA  
RGDOCUMENTO  
MD0000 001REV.  
BFOGLIO  
97 di 260

30	1115.3	-1446.3	12.627	0.3172	-27.294	-5559.4
31	1422.0	-1446.2	12.011	0.3172	-25.469	-5559.4
32	1728.7	-1446.1	11.394	0.3172	-23.644	-5559.4
33	2035.4	-1446.1	10.777	0.3172	-21.820	-5559.4
34	2342.1	-1446.0	10.161	0.3172	-19.995	-5559.4
MINIMUM	519.06	-1446.3	10.161	0.3172	-216.49	-5559.4
Pile N.	7	30	34	25	7	30
MAXIMUM	2342.1	-645.79	56.144	0.4817	-19.995	-2111.8
Pile N.	34	14	7	1	34	7



## THE PILE COORDINATE SYSTEM (LOCAL AXES)

## \* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
1	2.5391E-04	-2.3094E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
2	2.4084E-04	-2.3077E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
3	2.2810E-04	-2.3062E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
4	2.1536E-04	-2.3046E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
5	2.0262E-04	-2.3030E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
6	1.8988E-04	-2.3015E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
7	1.7680E-04	-2.2998E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
8	6.7280E-04	-2.3094E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
9	6.5973E-04	-2.3077E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
10	6.4699E-04	-2.3062E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
11	6.3425E-04	-2.3046E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
12	6.2151E-04	-2.3030E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
13	6.0877E-04	-2.3015E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
14	5.9569E-04	-2.2998E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
15	2.2749E-04	-2.2994E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
16	3.0511E-04	-2.2994E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
17	3.8274E-04	-2.2994E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
18	4.6037E-04	-2.2994E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05
19	5.3799E-04	-2.2994E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
20	3.1161E-04	-2.3098E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
21	3.8924E-04	-2.3098E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
22	4.6687E-04	-2.3098E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
23	5.4449E-04	-2.3098E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05
24	6.2212E-04	-2.3098E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
25	2.5681E-04	-1.8929E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
26	3.3444E-04	-1.8929E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
27	4.1206E-04	-1.8929E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05
28	4.8969E-04	-1.8929E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05
29	5.6732E-04	-1.8929E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
30	2.8229E-04	-1.8961E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
31	3.5991E-04	-1.8961E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
32	4.3754E-04	-1.8961E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05
33	5.1517E-04	-1.8961E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05
34	5.9280E-04	-1.8961E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
MINIMUM	1.7680E-04	-2.3098E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.7280E-04	-1.8929E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	8	25	1	1	1	1

## \* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	745.43	-648.00	56.073	0.4817	-216.30	-2119.4
2	707.05	-647.67	56.085	0.4817	-216.33	-2118.1
3	669.65	-647.35	56.097	0.4817	-216.36	-2116.9
4	632.25	-647.02	56.109	0.4817	-216.40	-2115.6
5	594.85	-646.70	56.121	0.4817	-216.43	-2114.4
6	557.45	-646.38	56.132	0.4817	-216.46	-2113.1
7	519.06	-646.05	56.144	0.4817	-216.49	-2111.8
8	1975.2	-647.74	51.007	0.4817	-194.19	-2119.6
9	1936.8	-647.41	51.018	0.4817	-194.22	-2118.3
10	1899.4	-647.09	51.029	0.4817	-194.25	-2117.0
11	1862.0	-646.77	51.040	0.4817	-194.28	-2115.8
12	1824.6	-646.44	51.050	0.4817	-194.30	-2114.5
13	1787.2	-646.12	51.061	0.4817	-194.33	-2113.3
14	1748.8	-645.79	51.072	0.4817	-194.36	-2112.0
15	667.85	-1134.7	26.384	0.4817	-80.523	-4903.6
16	895.75	-1134.7	25.957	0.4817	-79.087	-4903.6
17	1123.6	-1134.7	25.529	0.4817	-77.651	-4903.6
18	1351.5	-1134.6	25.102	0.4817	-76.215	-4903.7
19	1579.4	-1134.6	24.675	0.4817	-74.779	-4903.7
20	914.84	-1138.5	26.344	0.4817	-80.440	-4923.0
21	1142.7	-1138.5	25.917	0.4817	-79.005	-4923.1
22	1370.6	-1138.4	25.490	0.4817	-77.571	-4923.1
23	1598.5	-1138.4	25.063	0.4817	-76.136	-4923.1
24	1826.4	-1138.3	24.636	0.4817	-74.701	-4923.1
25	1014.7	-1444.2	12.634	0.3172	-27.305	-5550.2

APPALTATORE: Consorzio  Soci  	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>												
PROGETTAZIONE: Mandataria  Mandanti  													
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B	<table border="1"> <tr> <td>COMMESSA</td> <td>LOTTO</td> <td>CODIFICA</td> <td>DOCUMENTO</td> <td>REV.</td> <td>FOGLIO</td> </tr> <tr> <td>IF1N</td> <td>01 E ZZ</td> <td>RG</td> <td>MD0000 001</td> <td>B</td> <td>98 di 260</td> </tr> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF1N	01 E ZZ	RG	MD0000 001	B	98 di 260
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO								
IF1N	01 E ZZ	RG	MD0000 001	B	98 di 260								

26	1321.4	-1444.1	12.017	0.3172	-25.479	-5550.2
27	1628.1	-1444.0	11.400	0.3172	-23.654	-5550.1
28	1934.8	-1444.0	10.783	0.3172	-21.829	-5550.1
29	2241.5	-1443.9	10.167	0.3172	-20.004	-5550.1
30	1115.3	-1446.3	12.627	0.3172	-27.294	-5559.4
31	1422.0	-1446.2	12.011	0.3172	-25.469	-5559.4
32	1728.7	-1446.1	11.394	0.3172	-23.644	-5559.4
33	2035.4	-1446.1	10.777	0.3172	-21.820	-5559.4
34	2342.1	-1446.0	10.161	0.3172	-19.995	-5559.4
MINIMUM	519.06	-1446.3	10.161	0.3172	-216.49	-5559.4
Pile N.	7	30	34	25	7	30
MAXIMUM	2342.1	-645.79	56.144	0.4817	-19.995	-2111.8
Pile N.	34	14	7	1	34	7

PILE GROUP STRESS, KN/ M\*\*2  
\*\*\*\*\*

1	6003.2
2	5986.9
3	5971.0
4	5955.1
5	5939.2
6	5923.3
7	5907.0
8	6413.2
9	6396.9
10	6381.0
11	6365.1
12	6349.2
13	6333.4
14	6317.1
15	3297.2
16	3372.9
17	3448.6
18	3524.3
19	3600.0
20	3391.6
21	3467.3
22	3543.0
23	3618.7
24	3694.4
25	3810.1
26	3912.3
27	4014.4
28	4116.5
29	4218.7
30	3849.5
31	3951.6
32	4053.7
33	4155.9
34	4258.0

MINIMUM	3297.2
Pile N.	15
MAXIMUM	6413.2
Pile N.	8

\* EFFECTS FOR Laterally LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2	FLEX. RIG. z-DIR KN- M**2	FLEX. RIG. y-DIR KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	-2.3094E-03	-2.7169E-06	-741.30	-216.30	-648.03	-14.236	-155.43	-2.3068	248.48	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
2	-2.3078E-03	-2.7172E-06	-740.87	-216.33	-647.70	-14.237	-155.37	-2.3070	235.68	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
3	-2.3062E-03	-2.7175E-06	-740.46	-216.36	-647.38	-14.238	-155.30	-2.3072	223.22	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
4	-2.3046E-03	-2.7179E-06	-740.05	-216.40	-647.05	-14.238	-155.24	-2.3074	210.75	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
5	-2.3030E-03	-2.7182E-06	-739.63	-216.43	-646.73	-14.239	-155.17	-2.3075	198.28	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
6	-2.3015E-03	-2.7185E-06	-739.22	-216.46	-646.41	-14.240	-155.11	-2.3077	185.82	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
7	-2.2999E-03	-2.7188E-06	-738.79	-216.49	-646.08	-14.241	-155.04	-2.3079	173.02	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
8	-2.3094E-03	-2.5154E-06	-741.60	-194.19	-647.83	-13.142	-155.44	-2.1306	658.41	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.000	5.0000	15.500	50.000	0.0000	0.0000
9	-2.3078E-03	-2.5157E-06	-741.18	-194.22	-647.50	-13.144	-155.38	-2.1308	645.61	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.000	5.0000	15.500	50.000	0.0000	0.0000
10	-2.3062E-03	-2.5160E-06	-740.76	-194.25	-647.18	-13.145	-155.31	-2.1309	633.14	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.000	5.0000	15.500	50.000	0.0000	0.0000
11	-2.3046E-03	-2.5163E-06	-740.35	-194.28	-646.85	-13.146	-155.25	-2.1311	620.68	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.000	5.0000	15.500	50.000	0.0000	0.0000
12	-2.3030E-03	-2.5166E-06	-739.93	-194.30	-646.53	-13.147	-155.18	-2.1312	608.21	1.1340E+07	4.9219E+07



APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandataria

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	100 di 260

x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
18	4.5899E-05	1.0912E-04	4903.7	29.820	246.35	25.104	44.942	6.0919	3524.3	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
19	4.5904E-05	1.0754E-04	4903.7	29.380	246.37	24.677	44.943	5.9931	3600.0	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
20	4.6082E-05	1.1383E-04	4923.0	31.108	247.13	26.345	45.273	6.3760	3391.6	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
21	4.6087E-05	1.1226E-04	4923.1	30.669	247.15	25.919	45.274	6.2774	3467.3	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
22	4.6092E-05	1.1069E-04	4923.1	30.231	247.17	25.492	45.275	6.1788	3543.0	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
23	4.6097E-05	1.0912E-04	4923.1	29.792	247.19	25.066	45.275	6.0802	3618.7	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
24	4.6102E-05	1.0754E-04	4923.1	29.353	247.20	24.639	45.276	5.9816	3694.4	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	13.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
25	3.8639E-05	4.6528E-05	5550.2	15.880	499.92	12.635	111.30	4.5255	3810.1	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
26	3.8641E-05	4.4957E-05	5550.2	15.280	499.94	12.018	111.31	4.2849	3912.3	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
27	3.8643E-05	4.3386E-05	5550.1	14.679	499.96	11.401	111.31	4.0443	4014.4	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
28	3.8645E-05	4.1814E-05	5550.1	14.078	499.98	10.784	111.32	3.8038	4116.5	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
29	3.8647E-05	4.0243E-05	5550.1	13.500	500.00	10.167	111.32	3.5633	4218.7	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.1200	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
30	3.8705E-05	4.6528E-05	5559.4	15.879	500.78	12.628	111.50	4.5275	3849.5	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
31	3.8707E-05	4.4957E-05	5559.4	15.278	500.81	12.011	111.50	4.2868	3951.6	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
32	3.8709E-05	4.3386E-05	5559.4	14.678	500.83	11.395	111.51	4.0461	4053.7	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
33	3.8711E-05	4.1814E-05	5559.4	14.077	500.85	10.778	111.51	3.8055	4155.9	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
34	3.8713E-05	4.0243E-05	5559.4	13.498	500.87	10.162	111.52	3.5649	4258.0	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.1200	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
Max.	5.1309E-05	1.1493E-04	5559.4	93.699	500.87	56.145	111.52	10.466	6413.2	4.9219E+07	4.9219E+07
Pile N.	8	1	30	7	34	7	34	7	8	15	1

LOAD CASE : 8  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
43356.5	-37503.6	756.050
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
352.894	4092.30	-2.31668E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
3.94259E-04	-2.64110E-03	6.93880E-05
ANGLE ROT. X,RAD	ANGLE ROT. Y,RAD	ANGLE ROT. Z,RAD
3.82413E-07	2.29301E-06	4.11507E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
*****	*****	*****	*****	*****	*****	*****
1	1.1842E-04	-2.6442E-03	7.2122E-05	3.8241E-07	2.2930E-06	4.1151E-05
2	1.1218E-04	-2.6431E-03	7.2122E-05	3.8241E-07	2.2930E-06	4.1151E-05
3	1.0611E-04	-2.6421E-03	7.2122E-05	3.8241E-07	2.2930E-06	4.1151E-05
4	1.0003E-04	-2.6411E-03	7.2122E-05	3.8241E-07	2.2930E-06	4.1151E-05
5	9.3955E-05	-2.6401E-03	7.2122E-05	3.8241E-07	2.2930E-06	4.1151E-05
6	8.7878E-05	-2.6391E-03	7.2122E-05	3.8241E-07	2.2930E-06	4.1151E-05
7	8.1642E-05	-2.6380E-03	7.2122E-05	3.8241E-07	2.2930E-06	4.1151E-05
8	7.0688E-04	-2.6442E-03	6.6654E-05	3.8241E-07	2.2930E-06	4.1151E-05
9	7.0064E-04	-2.6431E-03	6.6654E-05	3.8241E-07	2.2930E-06	4.1151E-05
10	6.9456E-04	-2.6421E-03	6.6654E-05	3.8241E-07	2.2930E-06	4.1151E-05
11	6.8849E-04	-2.6411E-03	6.6654E-05	3.8241E-07	2.2930E-06	4.1151E-05

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTAZIONE:

Mandatario

Mandanti



PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 101 di 260
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12	6.8241E-04	-2.6401E-03	6.6654E-05	3.8241E-07	2.2930E-06	4.1151E-05
13	6.7633E-04	-2.6391E-03	6.6654E-05	3.8241E-07	2.2930E-06	4.1151E-05
14	6.7010E-04	-2.6380E-03	6.6654E-05	3.8241E-07	2.2930E-06	4.1151E-05
15	1.5610E-04	-2.6377E-03	7.1415E-05	3.8241E-07	2.2930E-06	4.1151E-05
16	2.6515E-04	-2.6377E-03	7.0401E-05	3.8241E-07	2.2930E-06	4.1151E-05
17	3.7420E-04	-2.6377E-03	6.9388E-05	3.8241E-07	2.2930E-06	4.1151E-05
18	4.8324E-04	-2.6377E-03	6.8375E-05	3.8241E-07	2.2930E-06	4.1151E-05
19	5.9229E-04	-2.6377E-03	6.7361E-05	3.8241E-07	2.2930E-06	4.1151E-05
20	1.9622E-04	-2.6444E-03	7.1415E-05	3.8241E-07	2.2930E-06	4.1151E-05
21	3.0527E-04	-2.6444E-03	7.0401E-05	3.8241E-07	2.2930E-06	4.1151E-05
22	4.1432E-04	-2.6444E-03	6.9388E-05	3.8241E-07	2.2930E-06	4.1151E-05
23	5.2337E-04	-2.6444E-03	6.8375E-05	3.8241E-07	2.2930E-06	4.1151E-05
24	6.3242E-04	-2.6444E-03	6.7361E-05	3.8241E-07	2.2930E-06	4.1151E-05
25	1.7008E-04	-2.0640E-03	3.9313E-05	3.8241E-07	2.2930E-06	4.1151E-05
26	2.7913E-04	-2.0640E-03	3.8299E-05	3.8241E-07	2.2930E-06	4.1151E-05
27	3.8818E-04	-2.0640E-03	3.7286E-05	3.8241E-07	2.2930E-06	4.1151E-05
28	4.9723E-04	-2.0640E-03	3.6273E-05	3.8241E-07	2.2930E-06	4.1151E-05
29	6.0628E-04	-2.0640E-03	3.5259E-05	3.8241E-07	2.2930E-06	4.1151E-05
30	1.8224E-04	-2.0660E-03	3.9313E-05	3.8241E-07	2.2930E-06	4.1151E-05
31	2.9129E-04	-2.0660E-03	3.8299E-05	3.8241E-07	2.2930E-06	4.1151E-05
32	4.0034E-04	-2.0660E-03	3.7286E-05	3.8241E-07	2.2930E-06	4.1151E-05
33	5.0939E-04	-2.0660E-03	3.6273E-05	3.8241E-07	2.2930E-06	4.1151E-05
34	6.1843E-04	-2.0660E-03	3.5259E-05	3.8241E-07	2.2930E-06	4.1151E-05
MINIMUM	8.1642E-05	-2.6444E-03	3.5259E-05	3.8241E-07	2.2930E-06	4.1151E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	7.0688E-04	-2.0640E-03	7.2122E-05	3.8241E-07	2.2930E-06	4.1151E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	347.66	-708.15	35.793	0.3107	-144.86	-2330.3
2	329.35	-707.95	35.797	0.3107	-144.87	-2329.5
3	311.51	-707.75	35.801	0.3107	-144.88	-2328.7
4	293.67	-707.55	35.805	0.3107	-144.89	-2327.9
5	275.83	-707.34	35.809	0.3107	-144.90	-2327.1
6	257.99	-707.14	35.814	0.3107	-144.91	-2326.3
7	239.68	-706.94	35.818	0.3107	-144.93	-2325.5
8	2075.3	-707.66	32.627	0.3107	-130.89	-2330.3
9	2056.9	-707.46	32.631	0.3107	-130.90	-2329.5
10	2039.1	-707.26	32.635	0.3107	-130.91	-2328.7
11	2021.3	-707.05	32.639	0.3107	-130.92	-2327.9
12	2003.4	-706.85	32.642	0.3107	-130.93	-2327.1
13	1985.6	-706.65	32.646	0.3107	-130.94	-2326.3
14	1967.3	-706.45	32.650	0.3107	-130.95	-2325.5
15	458.27	-1234.7	16.550	0.3107	-52.591	-5355.1
16	778.42	-1234.6	16.284	0.3107	-51.688	-5355.1
17	1098.6	-1234.5	16.018	0.3107	-50.784	-5355.1
18	1418.7	-1234.5	15.751	0.3107	-49.881	-5355.1
19	1738.9	-1234.4	15.485	0.3107	-48.977	-5355.2
20	576.08	-1237.0	16.536	0.3107	-52.561	-5367.3
21	896.23	-1236.9	16.270	0.3107	-51.658	-5367.3
22	1216.4	-1236.9	16.004	0.3107	-50.755	-5367.3
23	1536.5	-1236.8	15.738	0.3107	-49.852	-5367.3
24	1856.7	-1236.7	15.472	0.3107	-48.949	-5367.4
25	672.00	-1524.0	12.468	0.2046	-32.473	-5828.4
26	1102.9	-1523.9	12.076	0.2046	-31.308	-5828.4
27	1533.7	-1523.8	11.685	0.2046	-30.144	-5828.3
28	1964.6	-1523.7	11.294	0.2046	-28.979	-5828.3
29	2395.4	-1523.6	10.903	0.2046	-27.815	-5828.3
30	720.02	-1525.3	12.464	0.2046	-32.467	-5834.3
31	1150.9	-1525.2	12.073	0.2046	-31.303	-5834.3
32	1581.7	-1525.1	11.682	0.2046	-30.138	-5834.3
33	2012.6	-1525.0	11.291	0.2046	-28.974	-5834.3
34	2443.4	-1524.9	10.900	0.2046	-27.810	-5834.2
MINIMUM	239.68	-1525.3	10.900	0.2046	-144.93	-5834.3
Pile N.	7	30	34	25	7	30
MAXIMUM	2443.4	-706.45	35.818	0.3107	-27.810	-2325.5
Pile N.	34	14	7	1	34	7

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
1	1.1842E-04	-2.6442E-03	7.2122E-05	3.8241E-07	2.2930E-06	4.1151E-05
2	1.1218E-04	-2.6431E-03	7.2122E-05	3.8241E-07	2.2930E-06	4.1151E-05
3	1.0611E-04	-2.6421E-03	7.2122E-05	3.8241E-07	2.2930E-06	4.1151E-05
4	1.0003E-04	-2.6411E-03	7.2122E-05	3.8241E-07	2.2930E-06	4.1151E-05
5	9.3955E-05	-2.6401E-03	7.2122E-05	3.8241E-07	2.2930E-06	4.1151E-05
6	8.7878E-05	-2.6391E-03	7.2122E-05	3.8241E-07	2.2930E-06	4.1151E-05
7	8.1642E-05	-2.6380E-03	7.2122E-05	3.8241E-07	2.2930E-06	4.1151E-05

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandatario

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 102 di 260
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8	7.0688E-04	-2.6442E-03	6.6654E-05	3.8241E-07	2.2930E-06	4.1151E-05
9	7.0064E-04	-2.6431E-03	6.6654E-05	3.8241E-07	2.2930E-06	4.1151E-05
10	6.9456E-04	-2.6421E-03	6.6654E-05	3.8241E-07	2.2930E-06	4.1151E-05
11	6.8849E-04	-2.6411E-03	6.6654E-05	3.8241E-07	2.2930E-06	4.1151E-05
12	6.8241E-04	-2.6401E-03	6.6654E-05	3.8241E-07	2.2930E-06	4.1151E-05
13	6.7633E-04	-2.6391E-03	6.6654E-05	3.8241E-07	2.2930E-06	4.1151E-05
14	6.7010E-04	-2.6380E-03	6.6654E-05	3.8241E-07	2.2930E-06	4.1151E-05
15	1.5610E-04	-2.6377E-03	7.1415E-05	3.8241E-07	2.2930E-06	4.1151E-05
16	2.6515E-04	-2.6377E-03	7.0401E-05	3.8241E-07	2.2930E-06	4.1151E-05
17	3.7420E-04	-2.6377E-03	6.9388E-05	3.8241E-07	2.2930E-06	4.1151E-05
18	4.8324E-04	-2.6377E-03	6.8375E-05	3.8241E-07	2.2930E-06	4.1151E-05
19	5.9229E-04	-2.6377E-03	6.7361E-05	3.8241E-07	2.2930E-06	4.1151E-05
20	1.9622E-04	-2.6444E-03	7.1415E-05	3.8241E-07	2.2930E-06	4.1151E-05
21	3.0527E-04	-2.6444E-03	7.0401E-05	3.8241E-07	2.2930E-06	4.1151E-05
22	4.1432E-04	-2.6444E-03	6.9388E-05	3.8241E-07	2.2930E-06	4.1151E-05
23	5.2337E-04	-2.6444E-03	6.8375E-05	3.8241E-07	2.2930E-06	4.1151E-05
24	6.3242E-04	-2.6444E-03	6.7361E-05	3.8241E-07	2.2930E-06	4.1151E-05
25	1.7008E-04	-2.0640E-03	3.9313E-05	3.8241E-07	2.2930E-06	4.1151E-05
26	2.7913E-04	-2.0640E-03	3.8299E-05	3.8241E-07	2.2930E-06	4.1151E-05
27	3.8818E-04	-2.0640E-03	3.7286E-05	3.8241E-07	2.2930E-06	4.1151E-05
28	4.9723E-04	-2.0640E-03	3.6273E-05	3.8241E-07	2.2930E-06	4.1151E-05
29	6.0628E-04	-2.0640E-03	3.5259E-05	3.8241E-07	2.2930E-06	4.1151E-05
30	1.8224E-04	-2.0660E-03	3.9313E-05	3.8241E-07	2.2930E-06	4.1151E-05
31	2.9129E-04	-2.0660E-03	3.8299E-05	3.8241E-07	2.2930E-06	4.1151E-05
32	4.0034E-04	-2.0660E-03	3.7286E-05	3.8241E-07	2.2930E-06	4.1151E-05
33	5.0939E-04	-2.0660E-03	3.6273E-05	3.8241E-07	2.2930E-06	4.1151E-05
34	6.1843E-04	-2.0660E-03	3.5259E-05	3.8241E-07	2.2930E-06	4.1151E-05
MINIMUM	8.1642E-05	-2.6444E-03	3.5259E-05	3.8241E-07	2.2930E-06	4.1151E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	7.0688E-04	-2.0640E-03	7.2122E-05	3.8241E-07	2.2930E-06	4.1151E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
1	347.66	-708.15	35.793	0.3107	-144.86	-2330.3
2	329.35	-707.95	35.797	0.3107	-144.87	-2329.5
3	311.51	-707.75	35.801	0.3107	-144.88	-2328.7
4	293.67	-707.55	35.805	0.3107	-144.89	-2327.9
5	275.83	-707.34	35.809	0.3107	-144.90	-2327.1
6	257.99	-707.14	35.814	0.3107	-144.91	-2326.3
7	239.68	-706.94	35.818	0.3107	-144.93	-2325.5
8	2075.3	-707.66	32.627	0.3107	-130.89	-2330.3
9	2056.9	-707.46	32.631	0.3107	-130.90	-2329.5
10	2039.1	-707.26	32.635	0.3107	-130.91	-2328.7
11	2021.3	-707.05	32.639	0.3107	-130.92	-2327.9
12	2003.4	-706.85	32.642	0.3107	-130.93	-2327.1
13	1985.6	-706.65	32.646	0.3107	-130.94	-2326.3
14	1967.3	-706.45	32.650	0.3107	-130.95	-2325.5
15	458.27	-1234.7	16.550	0.3107	-52.591	-5355.1
16	778.42	-1234.6	16.284	0.3107	-51.688	-5355.1
17	1098.6	-1234.5	16.018	0.3107	-50.784	-5355.1
18	1418.7	-1234.5	15.751	0.3107	-49.881	-5355.1
19	1738.9	-1234.4	15.485	0.3107	-48.977	-5355.2
20	576.08	-1237.0	16.536	0.3107	-52.561	-5367.3
21	896.23	-1236.9	16.270	0.3107	-51.658	-5367.3
22	1216.4	-1236.9	16.004	0.3107	-50.755	-5367.3
23	1536.5	-1236.8	15.738	0.3107	-49.852	-5367.3
24	1856.7	-1236.7	15.472	0.3107	-48.949	-5367.4
25	672.00	-1524.0	12.468	0.2046	-32.473	-5828.4
26	1102.9	-1523.9	12.076	0.2046	-31.308	-5828.4
27	1533.7	-1523.8	11.685	0.2046	-30.144	-5828.3
28	1964.6	-1523.7	11.294	0.2046	-28.979	-5828.3
29	2395.4	-1523.6	10.903	0.2046	-27.815	-5828.3
30	720.02	-1525.3	12.464	0.2046	-32.467	-5834.3
31	1150.9	-1525.2	12.073	0.2046	-31.303	-5834.3
32	1581.7	-1525.1	11.682	0.2046	-30.138	-5834.3
33	2012.6	-1525.0	11.291	0.2046	-28.974	-5834.3
34	2443.4	-1524.9	10.900	0.2046	-27.810	-5834.2
MINIMUM	239.68	-1525.3	10.900	0.2046	-144.93	-5834.3
Pile N.	7	30	34	25	7	30
MAXIMUM	2443.4	-706.45	35.818	0.3107	-27.810	-2325.5
Pile N.	34	14	7	1	34	7

PILE GROUP	STRESS, KN/ M**2
1	6441.9
2	6433.6
3	6425.5
4	6417.4
5	6409.3
6	6401.2
7	6392.9
8	7017.8
9	7009.5

<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  		<b>RADDOPPIO TRATTA APICE – ORSARA I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>	CODIFICA <b>RG</b>	DOCUMENTO <b>MD0000 001</b>	REV. <b>B</b>	FOGLIO <b>103 di 260</b>

10	7001.4
11	6993.2
12	6985.1
13	6977.0
14	6968.7
15	3504.9
16	3611.5
17	3718.2
18	3824.8
19	3931.4
20	3551.8
21	3658.4
22	3765.1
23	3871.7
24	3978.3
25	3870.2
26	4013.7
27	4157.2
28	4300.8
29	4444.3
30	3889.9
31	4033.4
32	4177.0
33	4320.5
34	4464.0

MINIMUM	3504.9
Pile N.	15
MAXIMUM	7017.8
Pile N.	8

\* EFFECTS FOR LATERALLY LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2	FLEX. RIG. z-DIR KN- M**2	FLEX. RIG. y-DIR KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	-2.6442E-03	-1.6891E-06	-825.96	-144.86	-708.17	-8.9643	-167.79	-1.4493	115.89	1.1340E+07	4.9219E+07
x (M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
2	-2.6431E-03	-1.6891E-06	-825.69	-144.87	-707.96	-8.9645	-167.74	-1.4494	109.78	1.1340E+07	4.9219E+07
x (M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
3	-2.6421E-03	-1.6892E-06	-825.43	-144.88	-707.76	-8.9648	-167.71	-1.4494	103.84	1.1340E+07	4.9219E+07
x (M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
4	-2.6411E-03	-1.6893E-06	-825.17	-144.89	-707.56	-8.9651	-167.67	-1.4494	97.891	1.1340E+07	4.9219E+07
x (M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
5	-2.6401E-03	-1.6894E-06	-824.91	-144.90	-707.36	-8.9653	-167.63	-1.4495	91.945	1.1340E+07	4.9219E+07
x (M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
6	-2.6391E-03	-1.6894E-06	-824.66	-144.91	-707.16	-8.9656	-167.59	-1.4495	85.998	1.1340E+07	4.9219E+07
x (M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
7	-2.6380E-03	-1.6895E-06	-824.39	-144.93	-706.95	-8.9659	-167.54	-1.4495	79.895	1.1340E+07	4.9219E+07
x (M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
8	-2.6442E-03	-1.5582E-06	-826.32	-130.89	-707.77	-8.2593	-167.78	-1.3349	691.75	1.1340E+07	4.9219E+07
x (M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
9	-2.6431E-03	-1.5582E-06	-826.06	-130.90	-707.56	-8.2596	-167.74	-1.3350	685.65	1.1340E+07	4.9219E+07
x (M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
10	-2.6421E-03	-1.5583E-06	-825.80	-130.91	-707.36	-8.2598	-167.70	-1.3350	679.70	1.1340E+07	4.9219E+07
x (M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
11	-2.6411E-03	-1.5584E-06	-825.54	-130.92	-707.16	-8.2601	-167.66	-1.3351	673.76	1.1340E+07	4.9219E+07
x (M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
12	-2.6401E-03	-1.5584E-06	-825.28	-130.93	-706.96	-8.2603	-167.62	-1.3351	667.81	1.1340E+07	4.9219E+07
x (M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
13	-2.6391E-03	-1.5585E-06	-825.02	-130.94	-706.76	-8.2606	-167.58	-1.3351	661.86	1.1340E+07	4.9219E+07
x (M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
14	-2.6380E-03	-1.5586E-06	-824.75	-130.95	-706.55	-8.2608	-167.54	-1.3352	655.76	1.1340E+07	4.9219E+07
x (M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
15	-2.6378E-03	-1.1847E-06	-1810.2	-52.591	-1234.7	-3.5725	-208.52	-0.8470	152.76	4.9219E+07	1.1340E+07
x (M)	0.0000	13.000	9.5000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
16	-2.6378E-03	-1.1678E-06	-1810.3	-51.688	-1234.6	-3.5213	-208.52	-0.8350	259.47	4.9219E+07	1.1340E+07
x (M)	0.0000	13.000	9.5000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
17	-2.6378E-03	-1.1510E-06	-1810.3	-50.784	-1234.6	-3.4701	-208.52	-0.8230	366.19	4.9219E+07	1.1340E+07
x (M)	0.0000	13.000	9.5000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
18	-2.6378E-03	-1.1342E-06	-1810.4	-49.881	-1234.5	-3.4188	-208.52	-0.8109	472.90	4.9219E+07	1.1340E+07
x (M)	0.0000	13.000	9.5000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
19	-2.6378E-03	-1.1173E-06	-1810.5	-48.977	-1234.5	-3.3675	-208.52	-0.7989	579.62	4.9219E+07	1.1340E+07
x (M)	0.0000	13.000	9.5000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
20	-2.6444E-03	-1.1842E-06	-1813.8	-52.561	-1237.0	-3.5697	-208.84	-0.8467	192.03	4.9219E+07	1.1340E+07
x (M)	0.0000	13.000	10.000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
21	-2.6444E-03	-1.1674E-06	-1813.9	-51.658	-1237.0	-3.5186	-208.84	-0.8347	298.74	4.9219E+07	1.1340E+07
x (M)	0.0000	13.000	10.000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
22	-2.6444E-03	-1.1506E-06	-1813.9	-50.755	-1236.9	-3.4674	-208.84	-0.8227	405.46	4.9219E+07	1.1340E+07
x (M)	0.0000	13.000	10.000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
23	-2.6444E-03	-1.1338E-06	-1814.0	-49.852	-1236.8	-3.4162	-208.84	-0.8106	512.17	4.9219E+07	1.1340E+07
x (M)	0.0000	13.000	10.000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
24	-2.6444E-03	-1.1169E-06	-1814.1	-48.949	-1236.8	-3.3649	-208.83	-0.7986	618.89	4.9219E+07	1.1340E+07
x (M)	0.0000	13.000	10.000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
25	-2.0640E-03	-5.4380E-07	-2569.8	-32.473	-1524.0	-4.2076	-684.31	-1.2873	224.00	4.9219E+07	1.1340E+07





<b>APPALTATORE:</b> Consorzio <b>Soci</b>   		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		<b>COMMESSA</b> <b>IF1N</b>	<b>LOTTO</b> <b>01 E ZZ</b>	<b>CODIFICA</b> <b>RG</b>	<b>DOCUMENTO</b> <b>MD0000 001</b>	<b>REV.</b> <b>B</b>	<b>FOGLIO</b> <b>105 di 260</b>

x( M)	12.960	0.0000	0.0000	7.2000	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
31	4.1843E-05	3.8299E-05	5834.3	14.114	541.20	12.073	120.48	4.7072	4033.4	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	7.2000	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
32	4.1846E-05	3.7286E-05	5834.3	13.697	541.23	11.682	120.49	4.5490	4177.0	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	7.2000	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
33	4.1849E-05	3.6272E-05	5834.3	13.279	541.26	11.291	120.50	4.3908	4320.5	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	7.2000	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
34	4.1852E-05	3.5259E-05	5834.2	12.862	541.29	10.901	120.50	4.2327	4464.0	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	7.2000	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
Max.	5.6690E-05	7.2122E-05	5834.3	58.471	541.29	35.818	120.50	6.3959	7017.8	4.9219E+07	4.9219E+07
Pile N.	8	1	30	7	34	7	33	7	8	15	1

LOAD CASE : 9  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
46715.3	-34872.8	1119.11
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
564.125	12269.7	-2.46729E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
4.24802E-04	-2.30461E-03	1.10688E-04
ANGLE ROT. X, RAD	ANGLE ROT. Y, RAD	ANGLE ROT. Z, RAD
5.92973E-07	4.80729E-06	2.92931E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
1	2.5391E-04	-2.3094E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
2	2.4084E-04	-2.3077E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
3	2.2810E-04	-2.3062E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
4	2.1536E-04	-2.3046E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
5	2.0262E-04	-2.3030E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
6	1.8988E-04	-2.3015E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
7	1.7680E-04	-2.2998E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
8	6.7280E-04	-2.3094E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
9	6.5973E-04	-2.3077E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
10	6.4699E-04	-2.3062E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
11	6.3425E-04	-2.3046E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
12	6.2151E-04	-2.3030E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
13	6.0877E-04	-2.3015E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
14	5.9569E-04	-2.2998E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
15	2.2749E-04	-2.2994E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
16	3.0511E-04	-2.2994E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
17	3.8274E-04	-2.2994E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
18	4.6037E-04	-2.2994E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05
19	5.3799E-04	-2.2994E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
20	3.1161E-04	-2.3098E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
21	3.8924E-04	-2.3098E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
22	4.6687E-04	-2.3098E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
23	5.4449E-04	-2.3098E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05
24	6.2212E-04	-2.3098E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
25	2.5681E-04	-1.8929E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
26	3.3444E-04	-1.8929E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
27	4.1206E-04	-1.8929E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05
28	4.8969E-04	-1.8929E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05
29	5.6732E-04	-1.8929E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
30	2.8229E-04	-1.8961E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
31	3.5991E-04	-1.8961E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
32	4.3754E-04	-1.8961E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05
33	5.1517E-04	-1.8961E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05
34	5.9280E-04	-1.8961E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
MINIMUM Pile N.	1.7680E-04	-2.3098E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
	7	20	29	1	1	1

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandatario

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 106 di 260
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MAXIMUM Pile N.	6.7280E-04 8	-1.8929E-03 25	1.1493E-04 1	5.9297E-07 1	4.8073E-06 1	2.9293E-05 1
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\* PILE TOP REACTIONS \*

PILE GROUP *****	FOR. X, KN *****	FOR. Y, KN *****	FOR. Z, KN *****	MOM X, KN- M *****	MOM Y, KN- M *****	MOM Z, KN- M *****
1	745.43	-648.00	56.073	0.4817	-216.30	-2119.4
2	707.05	-647.67	56.085	0.4817	-216.33	-2118.1
3	669.65	-647.35	56.097	0.4817	-216.36	-2116.9
4	632.25	-647.02	56.109	0.4817	-216.40	-2115.6
5	594.85	-646.70	56.121	0.4817	-216.43	-2114.4
6	557.45	-646.38	56.132	0.4817	-216.46	-2113.1
7	519.06	-646.05	56.144	0.4817	-216.49	-2111.8
8	1975.2	-647.74	51.007	0.4817	-194.19	-2119.6
9	1936.8	-647.41	51.018	0.4817	-194.22	-2118.3
10	1899.4	-647.09	51.029	0.4817	-194.25	-2117.0
11	1862.0	-646.77	51.040	0.4817	-194.28	-2115.8
12	1824.6	-646.44	51.050	0.4817	-194.30	-2114.5
13	1787.2	-646.12	51.061	0.4817	-194.33	-2113.3
14	1748.8	-645.79	51.072	0.4817	-194.36	-2112.0
15	667.85	-1134.7	26.384	0.4817	-80.523	-4903.6
16	895.75	-1134.7	25.957	0.4817	-79.087	-4903.6
17	1123.6	-1134.7	25.529	0.4817	-77.651	-4903.6
18	1351.5	-1134.6	25.102	0.4817	-76.215	-4903.7
19	1579.4	-1134.6	24.675	0.4817	-74.779	-4903.7
20	914.84	-1138.5	26.344	0.4817	-80.440	-4923.0
21	1142.7	-1138.5	25.917	0.4817	-79.005	-4923.1
22	1370.6	-1138.4	25.490	0.4817	-77.571	-4923.1
23	1598.5	-1138.4	25.063	0.4817	-76.136	-4923.1
24	1826.4	-1138.3	24.636	0.4817	-74.701	-4923.1
25	1014.7	-1444.2	12.634	0.3172	-27.305	-5550.2
26	1321.4	-1444.1	12.017	0.3172	-25.479	-5550.2
27	1628.1	-1444.0	11.400	0.3172	-23.654	-5550.1
28	1934.8	-1444.0	10.783	0.3172	-21.829	-5550.1
29	2241.5	-1443.9	10.167	0.3172	-20.004	-5550.1
30	1115.3	-1446.3	12.627	0.3172	-27.294	-5559.4
31	1422.0	-1446.2	12.011	0.3172	-25.469	-5559.4
32	1728.7	-1446.1	11.394	0.3172	-23.644	-5559.4
33	2035.4	-1446.1	10.777	0.3172	-21.820	-5559.4
34	2342.1	-1446.0	10.161	0.3172	-19.995	-5559.4
MINIMUM Pile N.	519.06 7	-1446.3 30	10.161 34	0.3172 25	-216.49 7	-5559.4 30
MAXIMUM Pile N.	2342.1 34	-645.79 14	56.144 7	0.4817 1	-19.995 34	-2111.8 7

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP *****	DISP. x, M *****	DISP. y, M *****	DISP. z, M *****	ROT. x,RAD *****	ROT. y,RAD *****	ROT. z,RAD *****
1	2.5391E-04	-2.3094E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
2	2.4084E-04	-2.3077E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
3	2.2810E-04	-2.3062E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
4	2.1536E-04	-2.3046E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
5	2.0262E-04	-2.3030E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
6	1.8988E-04	-2.3015E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
7	1.7680E-04	-2.2998E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
8	6.7280E-04	-2.3094E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
9	6.5973E-04	-2.3077E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
10	6.4699E-04	-2.3062E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
11	6.3425E-04	-2.3046E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
12	6.2151E-04	-2.3030E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
13	6.0877E-04	-2.3015E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
14	5.9569E-04	-2.2998E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
15	2.2749E-04	-2.2994E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
16	3.0511E-04	-2.2994E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
17	3.8274E-04	-2.2994E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
18	4.6037E-04	-2.2994E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05
19	5.3799E-04	-2.2994E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
20	3.1161E-04	-2.3098E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
21	3.8924E-04	-2.3098E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
22	4.6687E-04	-2.3098E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
23	5.4449E-04	-2.3098E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05
24	6.2212E-04	-2.3098E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
25	2.5681E-04	-1.8929E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
26	3.3444E-04	-1.8929E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
27	4.1206E-04	-1.8929E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05
28	4.8969E-04	-1.8929E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05
29	5.6732E-04	-1.8929E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
30	2.8229E-04	-1.8961E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
31	3.5991E-04	-1.8961E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
32	4.3754E-04	-1.8961E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05
33	5.1517E-04	-1.8961E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05

<b>APPALTATORE:</b> Consorzio  Soci  	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>						
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	<table border="1"> <tr> <td>COMMESSA IF1N</td> <td>LOTTO 01 E ZZ</td> <td>CODIFICA RG</td> <td>DOCUMENTO MD0000 001</td> <td>REV. B</td> <td>FOGLIO 107 di 260</td> </tr> </table>	COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 107 di 260
COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 107 di 260		

34	5.9280E-04	-1.8961E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
MINIMUM	1.7680E-04	-2.3098E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.7280E-04	-1.8929E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
1	745.43	-648.00	56.073	0.4817	-216.30	-2119.4
2	707.05	-647.67	56.085	0.4817	-216.33	-2118.1
3	669.65	-647.35	56.097	0.4817	-216.36	-2116.9
4	632.25	-647.02	56.109	0.4817	-216.40	-2115.6
5	594.85	-646.70	56.121	0.4817	-216.43	-2114.4
6	557.45	-646.38	56.132	0.4817	-216.46	-2113.1
7	519.06	-646.05	56.144	0.4817	-216.49	-2111.8
8	1975.2	-647.74	51.007	0.4817	-194.19	-2119.6
9	1936.8	-647.41	51.018	0.4817	-194.22	-2118.3
10	1899.4	-647.09	51.029	0.4817	-194.25	-2117.0
11	1862.0	-646.77	51.040	0.4817	-194.28	-2115.8
12	1824.6	-646.44	51.050	0.4817	-194.30	-2114.5
13	1787.2	-646.12	51.061	0.4817	-194.33	-2113.3
14	1748.8	-645.79	51.072	0.4817	-194.36	-2112.0
15	667.85	-1134.7	26.384	0.4817	-80.523	-4903.6
16	895.75	-1134.7	25.957	0.4817	-79.087	-4903.6
17	1123.6	-1134.7	25.529	0.4817	-77.651	-4903.6
18	1351.5	-1134.6	25.102	0.4817	-76.215	-4903.7
19	1579.4	-1134.6	24.675	0.4817	-74.779	-4903.7
20	914.84	-1138.5	26.344	0.4817	-80.440	-4923.0
21	1142.7	-1138.5	25.917	0.4817	-79.005	-4923.1
22	1370.6	-1138.4	25.490	0.4817	-77.571	-4923.1
23	1598.5	-1138.4	25.063	0.4817	-76.136	-4923.1
24	1826.4	-1138.3	24.636	0.4817	-74.701	-4923.1
25	1014.7	-1444.2	12.634	0.3172	-27.305	-5550.2
26	1321.4	-1444.1	12.017	0.3172	-25.479	-5550.2
27	1628.1	-1444.0	11.400	0.3172	-23.654	-5550.1
28	1934.8	-1444.0	10.783	0.3172	-21.829	-5550.1
29	2241.5	-1443.9	10.167	0.3172	-20.004	-5550.1
30	1115.3	-1446.3	12.627	0.3172	-27.294	-5559.4
31	1422.0	-1446.2	12.011	0.3172	-25.469	-5559.4
32	1728.7	-1446.1	11.394	0.3172	-23.644	-5559.4
33	2035.4	-1446.1	10.777	0.3172	-21.820	-5559.4
34	2342.1	-1446.0	10.161	0.3172	-19.995	-5559.4
MINIMUM	519.06	-1446.3	10.161	0.3172	-216.49	-5559.4
Pile N.	7	30	34	25	7	30
MAXIMUM	2342.1	-645.79	56.144	0.4817	-19.995	-2111.8
Pile N.	34	14	7	1	34	7

PILE GROUP STRESS, KN/ M\*\*2

PILE GROUP	STRESS, KN/ M**2
1	6003.2
2	5986.9
3	5971.0
4	5955.1
5	5939.2
6	5923.3
7	5907.0
8	6413.2
9	6396.9
10	6381.0
11	6365.1
12	6349.2
13	6333.4
14	6317.1
15	3297.2
16	3372.9
17	3448.6
18	3524.3
19	3600.0
20	3391.6
21	3467.3
22	3543.0
23	3618.7
24	3694.4
25	3810.1
26	3912.3
27	4014.4
28	4116.5
29	4218.7
30	3849.5
31	3951.6
32	4053.7
33	4155.9
34	4258.0





<b>APPALTATORE:</b> Consorzio <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
<b>COMMESSA</b> IF1N	<b>LOTTO</b> 01 E ZZ	<b>CODIFICA</b> RG	<b>DOCUMENTO</b> MD0000 001	<b>REV.</b> B	<b>FOGLIO</b> 110 di 260

VERT. LOAD, KN    HOR. LOAD Y, KN    HOR. LOAD Z, KN  
 45390.2            -37757.6            819.782  
  
 MOMENT X , KN- M    MOMENT Y, KN- M    MOMENT Z, KN- M  
 273.326            7476.06            -2.26412E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL , M            HORIZONTAL Y, M            HORIZONTAL Z, M  
 4.12753E-04            -2.68576E-03            8.08705E-05  
  
 ANGLE ROT. X,RAD    ANGLE ROT. Y,RAD    ANGLE ROT. Z,RAD  
 2.98418E-07            3.19971E-06            4.33009E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
*****	*****	*****	*****	*****	*****	*****
1	1.2881E-04	-2.6881E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
2	1.2011E-04	-2.6873E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
3	1.1163E-04	-2.6865E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
4	1.0315E-04	-2.6858E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
5	9.4673E-05	-2.6850E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
6	8.6194E-05	-2.6842E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
7	7.7490E-05	-2.6834E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
8	7.4802E-04	-2.6881E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
9	7.3931E-04	-2.6873E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
10	7.3083E-04	-2.6865E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
11	7.2235E-04	-2.6858E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
12	7.1387E-04	-2.6850E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
13	7.0540E-04	-2.6842E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
14	6.9669E-04	-2.6834E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
15	1.5526E-04	-2.6832E-03	8.2452E-05	2.9842E-07	3.1997E-06	4.3301E-05
16	2.7001E-04	-2.6832E-03	8.1661E-05	2.9842E-07	3.1997E-06	4.3301E-05
17	3.8476E-04	-2.6832E-03	8.0870E-05	2.9842E-07	3.1997E-06	4.3301E-05
18	4.9950E-04	-2.6832E-03	8.0080E-05	2.9842E-07	3.1997E-06	4.3301E-05
19	6.1425E-04	-2.6832E-03	7.9289E-05	2.9842E-07	3.1997E-06	4.3301E-05
20	2.1126E-04	-2.6884E-03	8.2452E-05	2.9842E-07	3.1997E-06	4.3301E-05
21	3.2600E-04	-2.6884E-03	8.1661E-05	2.9842E-07	3.1997E-06	4.3301E-05
22	4.4075E-04	-2.6884E-03	8.0870E-05	2.9842E-07	3.1997E-06	4.3301E-05
23	5.5550E-04	-2.6884E-03	8.0080E-05	2.9842E-07	3.1997E-06	4.3301E-05
24	6.7024E-04	-2.6884E-03	7.9289E-05	2.9842E-07	3.1997E-06	4.3301E-05
25	1.7478E-04	-2.0787E-03	3.7656E-05	2.9842E-07	3.1997E-06	4.3301E-05
26	2.8953E-04	-2.0787E-03	3.6866E-05	2.9842E-07	3.1997E-06	4.3301E-05
27	4.0427E-04	-2.0787E-03	3.6075E-05	2.9842E-07	3.1997E-06	4.3301E-05
28	5.1902E-04	-2.0787E-03	3.5284E-05	2.9842E-07	3.1997E-06	4.3301E-05
29	6.3377E-04	-2.0787E-03	3.4493E-05	2.9842E-07	3.1997E-06	4.3301E-05
30	1.9174E-04	-2.0803E-03	3.7656E-05	2.9842E-07	3.1997E-06	4.3301E-05
31	3.0649E-04	-2.0803E-03	3.6866E-05	2.9842E-07	3.1997E-06	4.3301E-05
32	4.2123E-04	-2.0803E-03	3.6075E-05	2.9842E-07	3.1997E-06	4.3301E-05
33	5.3598E-04	-2.0803E-03	3.5284E-05	2.9842E-07	3.1997E-06	4.3301E-05
34	6.5073E-04	-2.0803E-03	3.4493E-05	2.9842E-07	3.1997E-06	4.3301E-05
MINIMUM	7.7490E-05	-2.6884E-03	3.4493E-05	2.9842E-07	3.1997E-06	4.3301E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	7.4802E-04	-2.0787E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	378.17	-715.35	39.589	0.2424	-156.57	-2354.7
2	352.62	-715.19	39.593	0.2424	-156.58	-2354.1
3	327.73	-715.04	39.596	0.2424	-156.59	-2353.4
4	302.83	-714.89	39.600	0.2424	-156.60	-2352.8
5	277.94	-714.73	39.603	0.2424	-156.60	-2352.2
6	253.05	-714.58	39.607	0.2424	-156.61	-2351.6
7	227.50	-714.42	39.611	0.2424	-156.62	-2350.9
8	2196.0	-714.82	37.125	0.2424	-145.70	-2354.7
9	2170.5	-714.66	37.128	0.2424	-145.70	-2354.1
10	2145.6	-714.51	37.132	0.2424	-145.71	-2353.5
11	2120.7	-714.36	37.135	0.2424	-145.72	-2352.8
12	2095.8	-714.20	37.138	0.2424	-145.73	-2352.2
13	2070.9	-714.05	37.142	0.2424	-145.74	-2351.6
14	2045.4	-713.89	37.145	0.2424	-145.75	-2351.0
15	455.82	-1246.7	18.525	0.2424	-57.847	-5406.4
16	792.69	-1246.6	18.318	0.2424	-57.145	-5406.4
17	1129.6	-1246.6	18.110	0.2424	-56.442	-5406.5
18	1466.4	-1246.5	17.902	0.2424	-55.740	-5406.5
19	1803.3	-1246.4	17.694	0.2424	-55.037	-5406.5

<b>APPALTATORE:</b> Consorzio  Soci  			<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  								
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>							COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>

20	620.21	-1248.5	18.512	0.2424	-57.822	-5415.9
21	957.08	-1248.4	18.305	0.2424	-57.119	-5416.0
22	1294.0	-1248.4	18.097	0.2424	-56.417	-5416.0
23	1630.8	-1248.3	17.889	0.2424	-55.715	-5416.0
24	1967.7	-1248.2	17.682	0.2424	-55.012	-5416.0
25	690.55	-1527.5	10.773	0.1596	-25.516	-5831.0
26	1143.9	-1527.4	10.467	0.1596	-24.608	-5830.9
27	1597.3	-1527.3	10.162	0.1596	-23.700	-5830.9
28	2050.7	-1527.2	9.8564	0.1596	-22.793	-5830.9
29	2504.0	-1527.1	9.5512	0.1596	-21.885	-5830.8
30	757.56	-1528.5	10.770	0.1596	-25.512	-5835.6
31	1210.9	-1528.4	10.465	0.1596	-24.604	-5835.6
32	1664.3	-1528.3	10.159	0.1596	-23.697	-5835.5
33	2117.7	-1528.2	9.8539	0.1596	-22.789	-5835.5
34	2571.0	-1528.1	9.5488	0.1596	-21.882	-5835.5
MINIMUM	227.50	-1528.5	9.5488	0.1596	-156.62	-5835.6
Pile N.	7	30	34	25	7	30
MAXIMUM	2571.0	-713.89	39.611	0.2424	-21.882	-2350.9
Pile N.	34	14	7	1	34	7

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x, RAD	ROT. y, RAD	ROT. z, RAD
1	1.2881E-04	-2.6881E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
2	1.2011E-04	-2.6873E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
3	1.1163E-04	-2.6865E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
4	1.0315E-04	-2.6858E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
5	9.4673E-05	-2.6850E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
6	8.6194E-05	-2.6842E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
7	7.7490E-05	-2.6834E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
8	7.4802E-05	-2.6881E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
9	7.3931E-04	-2.6873E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
10	7.3083E-04	-2.6865E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
11	7.2235E-04	-2.6858E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
12	7.1387E-04	-2.6850E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
13	7.0540E-04	-2.6842E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
14	6.9669E-04	-2.6834E-03	7.8737E-05	2.9842E-07	3.1997E-06	4.3301E-05
15	1.5526E-04	-2.6832E-03	8.2452E-05	2.9842E-07	3.1997E-06	4.3301E-05
16	2.7001E-04	-2.6832E-03	8.1661E-05	2.9842E-07	3.1997E-06	4.3301E-05
17	3.8476E-04	-2.6832E-03	8.0870E-05	2.9842E-07	3.1997E-06	4.3301E-05
18	4.9950E-04	-2.6832E-03	8.0080E-05	2.9842E-07	3.1997E-06	4.3301E-05
19	6.1425E-04	-2.6832E-03	7.9289E-05	2.9842E-07	3.1997E-06	4.3301E-05
20	2.1126E-04	-2.6884E-03	8.2452E-05	2.9842E-07	3.1997E-06	4.3301E-05
21	3.2600E-04	-2.6884E-03	8.1661E-05	2.9842E-07	3.1997E-06	4.3301E-05
22	4.4075E-04	-2.6884E-03	8.0870E-05	2.9842E-07	3.1997E-06	4.3301E-05
23	5.5550E-04	-2.6884E-03	8.0080E-05	2.9842E-07	3.1997E-06	4.3301E-05
24	6.7024E-04	-2.6884E-03	7.9289E-05	2.9842E-07	3.1997E-06	4.3301E-05
25	1.7478E-04	-2.0787E-03	3.7656E-05	2.9842E-07	3.1997E-06	4.3301E-05
26	2.8953E-04	-2.0787E-03	3.6866E-05	2.9842E-07	3.1997E-06	4.3301E-05
27	4.0427E-04	-2.0787E-03	3.6075E-05	2.9842E-07	3.1997E-06	4.3301E-05
28	5.1902E-04	-2.0787E-03	3.5284E-05	2.9842E-07	3.1997E-06	4.3301E-05
29	6.3377E-04	-2.0787E-03	3.4493E-05	2.9842E-07	3.1997E-06	4.3301E-05
30	1.9174E-04	-2.0803E-03	3.7656E-05	2.9842E-07	3.1997E-06	4.3301E-05
31	3.0649E-04	-2.0803E-03	3.6866E-05	2.9842E-07	3.1997E-06	4.3301E-05
32	4.2123E-04	-2.0803E-03	3.6075E-05	2.9842E-07	3.1997E-06	4.3301E-05
33	5.3598E-04	-2.0803E-03	3.5284E-05	2.9842E-07	3.1997E-06	4.3301E-05
34	6.5073E-04	-2.0803E-03	3.4493E-05	2.9842E-07	3.1997E-06	4.3301E-05
MINIMUM	7.7490E-05	-2.6884E-03	3.4493E-05	2.9842E-07	3.1997E-06	4.3301E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	7.4802E-04	-2.0787E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
1	378.17	-715.35	39.589	0.2424	-156.57	-2354.7
2	352.62	-715.19	39.593	0.2424	-156.58	-2354.1
3	327.73	-715.04	39.596	0.2424	-156.59	-2353.4
4	302.83	-714.89	39.600	0.2424	-156.60	-2352.8
5	277.94	-714.73	39.603	0.2424	-156.60	-2352.2
6	253.05	-714.58	39.607	0.2424	-156.61	-2351.6
7	227.50	-714.42	39.611	0.2424	-156.62	-2350.9
8	2196.0	-714.82	37.125	0.2424	-145.70	-2354.7
9	2170.5	-714.66	37.128	0.2424	-145.70	-2354.1
10	2145.6	-714.51	37.132	0.2424	-145.71	-2353.5
11	2120.7	-714.36	37.135	0.2424	-145.72	-2352.8
12	2095.8	-714.20	37.138	0.2424	-145.73	-2352.2
13	2070.9	-714.05	37.142	0.2424	-145.74	-2351.6
14	2045.4	-713.89	37.145	0.2424	-145.75	-2351.0
15	455.82	-1246.7	18.525	0.2424	-57.847	-5406.4

<b>APPALTATORE:</b> Consorzio  Soci  	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>											
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  												
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">COMMESSA</td> <td style="width: 15%;">LOTTO</td> <td style="width: 15%;">CODIFICA</td> <td style="width: 15%;">DOCUMENTO</td> <td style="width: 15%;">REV.</td> <td style="width: 15%;">FOGLIO</td> </tr> <tr> <td>IF1N</td> <td>01 E ZZ</td> <td>RG</td> <td>MD0000 001</td> <td>B</td> <td>112 di 260</td> </tr> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF1N	01 E ZZ	RG	MD0000 001	B	112 di 260
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO							
IF1N	01 E ZZ	RG	MD0000 001	B	112 di 260							

16	792.69	-1246.6	18.318	0.2424	-57.145	-5406.4
17	1129.6	-1246.6	18.110	0.2424	-56.442	-5406.5
18	1466.4	-1246.5	17.902	0.2424	-55.740	-5406.5
19	1803.3	-1246.4	17.694	0.2424	-55.037	-5406.5
20	620.21	-1248.5	18.512	0.2424	-57.822	-5415.9
21	957.08	-1248.4	18.305	0.2424	-57.119	-5416.0
22	1294.0	-1248.4	18.097	0.2424	-56.417	-5416.0
23	1630.8	-1248.3	17.889	0.2424	-55.715	-5416.0
24	1967.7	-1248.2	17.682	0.2424	-55.012	-5416.0
25	690.55	-1527.5	10.773	0.1596	-25.516	-5831.0
26	1143.9	-1527.4	10.467	0.1596	-24.608	-5830.9
27	1597.3	-1527.3	10.162	0.1596	-23.700	-5830.9
28	2050.7	-1527.2	9.8564	0.1596	-22.793	-5830.9
29	2504.0	-1527.1	9.5512	0.1596	-21.885	-5830.8
30	757.56	-1528.5	10.770	0.1596	-25.512	-5835.6
31	1210.9	-1528.4	10.465	0.1596	-24.604	-5835.6
32	1664.3	-1528.3	10.159	0.1596	-23.697	-5835.5
33	2117.7	-1528.2	9.8539	0.1596	-22.789	-5835.5
34	2571.0	-1528.1	9.5488	0.1596	-21.882	-5835.5
MINIMUM	227.50	-1528.5	9.5488	0.1596	-156.62	-5835.6
Pile N.	7	30	34	25	7	30
MAXIMUM	2571.0	-713.89	39.611	0.2424	-21.882	-2350.9
Pile N.	34	14	7	1	34	7

PILE GROUP STRESS, KN/ M\*\*2

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1	6518.5
2	6508.2
3	6498.3
4	6488.3
5	6478.3
6	6468.3
7	6458.1
8	7124.4
9	7114.2
10	7104.2
11	7094.2
12	7084.3
13	7074.3
14	7064.0
15	3536.8
16	3649.0
17	3761.2
18	3873.5
19	3985.7
20	3597.5
21	3709.8
22	3822.0
23	3934.2
24	4046.4
25	3877.6
26	4028.6
27	4179.7
28	4330.8
29	4481.8
30	3902.8
31	4053.9
32	4204.9
33	4356.0
34	4507.1
MINIMUM	3536.8
Pile N.	15
MAXIMUM	7124.4
Pile N.	8

\* EFFECTS FOR LATERALLY LOADED PILE \*


\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL.		MOMENT		SHEAR		SOIL REACT		TOTAL STRESS	FLEX. RIG.	
	y-DIR	z-DIR	y-DIR	z-DIR	y-DIR	z-DIR	y-DIR	z-DIR		KN- M**2	KN- M**2
	M	M	KN- M	KN- M	KN	KN	KN/ M	KN/ M	KN/ M**2	KN- M**2	KN- M**2
1	-2.6881E-03	-1.9281E-06	-836.78	-156.57	-715.37	-10.209	-169.27	-1.6494	126.06	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
2	-2.6873E-03	-1.9281E-06	-836.57	-156.58	-715.21	-10.209	-169.24	-1.6494	117.54	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
3	-2.6865E-03	-1.9282E-06	-836.36	-156.59	-715.05	-10.209	-169.21	-1.6495	109.24	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
4	-2.6858E-03	-1.9282E-06	-836.16	-156.60	-714.90	-10.209	-169.18	-1.6495	100.94	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
5	-2.6850E-03	-1.9283E-06	-835.96	-156.60	-714.75	-10.210	-169.15	-1.6495	92.647	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
6	-2.6842E-03	-1.9284E-06	-835.75	-156.61	-714.59	-10.210	-169.12	-1.6495	84.349	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.0000	0.0000	0.0000	12.500	5.0000	16.000	50.000	0.0000	0.0000
7	-2.6834E-03	-1.9284E-06	-835.55	-156.62	-714.43	-10.210	-169.09	-1.6496	75.832	1.1340E+07	4.9219E+07







<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>							<b>COMMESSA</b> <b>IF1N</b>

2	1.9993E-04	-2.3628E-03	8.4788E-05	1.1950E-07	3.6621E-06	3.2649E-05
3	1.9022E-04	-2.3624E-03	8.4788E-05	1.1950E-07	3.6621E-06	3.2649E-05
4	1.8052E-04	-2.3621E-03	8.4788E-05	1.1950E-07	3.6621E-06	3.2649E-05
5	1.7081E-04	-2.3618E-03	8.4788E-05	1.1950E-07	3.6621E-06	3.2649E-05
6	1.6111E-04	-2.3615E-03	8.4788E-05	1.1950E-07	3.6621E-06	3.2649E-05
7	1.5115E-04	-2.3612E-03	8.4788E-05	1.1950E-07	3.6621E-06	3.2649E-05
8	6.7678E-04	-2.3631E-03	8.3079E-05	1.1950E-07	3.6621E-06	3.2649E-05
9	6.6681E-04	-2.3628E-03	8.3079E-05	1.1950E-07	3.6621E-06	3.2649E-05
10	6.5711E-04	-2.3624E-03	8.3079E-05	1.1950E-07	3.6621E-06	3.2649E-05
11	6.4741E-04	-2.3621E-03	8.3079E-05	1.1950E-07	3.6621E-06	3.2649E-05
12	6.3770E-04	-2.3618E-03	8.3079E-05	1.1950E-07	3.6621E-06	3.2649E-05
13	6.2800E-04	-2.3615E-03	8.3079E-05	1.1950E-07	3.6621E-06	3.2649E-05
14	6.1804E-04	-2.3612E-03	8.3079E-05	1.1950E-07	3.6621E-06	3.2649E-05
15	2.0888E-04	-2.3611E-03	8.4567E-05	1.1950E-07	3.6621E-06	3.2649E-05
16	2.9540E-04	-2.3611E-03	8.4250E-05	1.1950E-07	3.6621E-06	3.2649E-05
17	3.8192E-04	-2.3611E-03	8.3934E-05	1.1950E-07	3.6621E-06	3.2649E-05
18	4.6844E-04	-2.3611E-03	8.3617E-05	1.1950E-07	3.6621E-06	3.2649E-05
19	5.5496E-04	-2.3611E-03	8.3300E-05	1.1950E-07	3.6621E-06	3.2649E-05
20	2.7296E-04	-2.3632E-03	8.4567E-05	1.1950E-07	3.6621E-06	3.2649E-05
21	3.5948E-04	-2.3632E-03	8.4250E-05	1.1950E-07	3.6621E-06	3.2649E-05
22	4.4601E-04	-2.3632E-03	8.3934E-05	1.1950E-07	3.6621E-06	3.2649E-05
23	5.3253E-04	-2.3632E-03	8.3617E-05	1.1950E-07	3.6621E-06	3.2649E-05
24	6.1905E-04	-2.3632E-03	8.3300E-05	1.1950E-07	3.6621E-06	3.2649E-05
25	2.3122E-04	-1.9047E-03	3.3298E-05	1.1950E-07	3.6621E-06	3.2649E-05
26	3.1774E-04	-1.9047E-03	3.2981E-05	1.1950E-07	3.6621E-06	3.2649E-05
27	4.0426E-04	-1.9047E-03	3.2665E-05	1.1950E-07	3.6621E-06	3.2649E-05
28	4.9078E-04	-1.9047E-03	3.2348E-05	1.1950E-07	3.6621E-06	3.2649E-05
29	5.7730E-04	-1.9047E-03	3.2031E-05	1.1950E-07	3.6621E-06	3.2649E-05
30	2.5062E-04	-1.9054E-03	3.3298E-05	1.1950E-07	3.6621E-06	3.2649E-05
31	3.3715E-04	-1.9054E-03	3.2981E-05	1.1950E-07	3.6621E-06	3.2649E-05
32	4.2367E-04	-1.9054E-03	3.2665E-05	1.1950E-07	3.6621E-06	3.2649E-05
33	5.1019E-04	-1.9054E-03	3.2348E-05	1.1950E-07	3.6621E-06	3.2649E-05
34	5.9671E-04	-1.9054E-03	3.2031E-05	1.1950E-07	3.6621E-06	3.2649E-05
MINIMUM	1.5115E-04	-2.3632E-03	3.2031E-05	1.1950E-07	3.6621E-06	3.2649E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.7678E-04	-1.9047E-03	8.4788E-05	1.1950E-07	3.6621E-06	3.2649E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	616.19	-656.80	40.846	0.097080	-156.98	-2147.2
2	586.95	-656.74	40.848	0.097080	-156.98	-2147.0
3	558.46	-656.68	40.850	0.097080	-156.99	-2146.7
4	529.97	-656.62	40.852	0.097080	-156.99	-2146.5
5	501.48	-656.56	40.853	0.097080	-156.99	-2146.2
6	472.99	-656.50	40.855	0.097080	-157.00	-2146.0
7	443.74	-656.44	40.857	0.097080	-157.00	-2145.7
8	1986.9	-656.44	39.823	0.097080	-152.54	-2147.2
9	1957.6	-656.38	39.825	0.097080	-152.54	-2147.0
10	1929.2	-656.32	39.827	0.097080	-152.55	-2146.7
11	1900.7	-656.26	39.829	0.097080	-152.55	-2146.5
12	1872.2	-656.20	39.830	0.097080	-152.56	-2146.2
13	1843.7	-656.15	39.832	0.097080	-152.56	-2146.0
14	1814.4	-656.09	39.834	0.097080	-152.57	-2145.7
15	613.22	-1151.1	19.378	0.097080	-59.073	-4969.5
16	867.23	-1151.1	19.291	0.097080	-58.785	-4969.5
17	1121.2	-1151.0	19.204	0.097080	-58.497	-4969.5
18	1375.3	-1151.0	19.116	0.097080	-58.209	-4969.5
19	1629.3	-1150.9	19.029	0.097080	-57.922	-4969.6
20	801.37	-1151.8	19.371	0.097080	-59.061	-4973.4
21	1055.4	-1151.8	19.284	0.097080	-58.773	-4973.4
22	1309.4	-1151.7	19.196	0.097080	-58.485	-4973.4
23	1563.4	-1151.7	19.109	0.097080	-58.198	-4973.5
24	1817.4	-1151.6	19.022	0.097080	-57.910	-4973.5
25	913.53	-1442.2	8.7764	0.063926	-18.294	-5521.1
26	1255.4	-1442.2	8.6511	0.063926	-17.927	-5521.0
27	1597.2	-1442.1	8.5258	0.063926	-17.560	-5521.0
28	1939.1	-1442.0	8.4005	0.063926	-17.193	-5521.0
29	2280.9	-1441.9	8.2753	0.063926	-16.826	-5521.0
30	990.22	-1442.6	8.7752	0.063926	-18.293	-5522.9
31	1332.1	-1442.6	8.6499	0.063926	-17.926	-5522.9
32	1673.9	-1442.5	8.5246	0.063926	-17.559	-5522.9
33	2015.8	-1442.4	8.3993	0.063926	-17.191	-5522.9
34	2357.6	-1442.4	8.2741	0.063926	-16.824	-5522.8
MINIMUM	443.74	-1442.6	8.2741	0.063926	-157.00	-5522.9
Pile N.	7	30	34	25	6	30
MAXIMUM	2357.6	-656.09	40.857	0.097080	-16.824	-2145.7
Pile N.	34	14	7	1	34	7

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  		<b>RADDOPPIO TRATTA APICE – ORSARA I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>	CODIFICA <b>RG</b>	DOCUMENTO <b>MD0000 001</b>	REV. <b>B</b>	FOGLIO <b>116 di 260</b>

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
1	2.0989E-04	-2.3631E-03	8.4788E-05	1.1950E-07	3.6621E-06	3.2649E-05
2	1.9993E-04	-2.3628E-03	8.4788E-05	1.1950E-07	3.6621E-06	3.2649E-05
3	1.9022E-04	-2.3624E-03	8.4788E-05	1.1950E-07	3.6621E-06	3.2649E-05
4	1.8052E-04	-2.3621E-03	8.4788E-05	1.1950E-07	3.6621E-06	3.2649E-05
5	1.7081E-04	-2.3618E-03	8.4788E-05	1.1950E-07	3.6621E-06	3.2649E-05
6	1.6111E-04	-2.3615E-03	8.4788E-05	1.1950E-07	3.6621E-06	3.2649E-05
7	1.5151E-04	-2.3612E-03	8.4788E-05	1.1950E-07	3.6621E-06	3.2649E-05
8	6.7678E-04	-2.3631E-03	8.3079E-05	1.1950E-07	3.6621E-06	3.2649E-05
9	6.6681E-04	-2.3628E-03	8.3079E-05	1.1950E-07	3.6621E-06	3.2649E-05
10	6.5711E-04	-2.3624E-03	8.3079E-05	1.1950E-07	3.6621E-06	3.2649E-05
11	6.4741E-04	-2.3621E-03	8.3079E-05	1.1950E-07	3.6621E-06	3.2649E-05
12	6.3770E-04	-2.3618E-03	8.3079E-05	1.1950E-07	3.6621E-06	3.2649E-05
13	6.2800E-04	-2.3615E-03	8.3079E-05	1.1950E-07	3.6621E-06	3.2649E-05
14	6.1804E-04	-2.3612E-03	8.3079E-05	1.1950E-07	3.6621E-06	3.2649E-05
15	2.0888E-04	-2.3611E-03	8.4567E-05	1.1950E-07	3.6621E-06	3.2649E-05
16	2.9540E-04	-2.3611E-03	8.4250E-05	1.1950E-07	3.6621E-06	3.2649E-05
17	3.8192E-04	-2.3611E-03	8.3934E-05	1.1950E-07	3.6621E-06	3.2649E-05
18	4.6844E-04	-2.3611E-03	8.3617E-05	1.1950E-07	3.6621E-06	3.2649E-05
19	5.5496E-04	-2.3611E-03	8.3300E-05	1.1950E-07	3.6621E-06	3.2649E-05
20	2.7296E-04	-2.3632E-03	8.4567E-05	1.1950E-07	3.6621E-06	3.2649E-05
21	3.5948E-04	-2.3632E-03	8.4250E-05	1.1950E-07	3.6621E-06	3.2649E-05
22	4.4601E-04	-2.3632E-03	8.3934E-05	1.1950E-07	3.6621E-06	3.2649E-05
23	5.3253E-04	-2.3632E-03	8.3617E-05	1.1950E-07	3.6621E-06	3.2649E-05
24	6.1905E-04	-2.3632E-03	8.3300E-05	1.1950E-07	3.6621E-06	3.2649E-05
25	2.3122E-04	-1.9047E-03	3.3298E-05	1.1950E-07	3.6621E-06	3.2649E-05
26	3.1774E-04	-1.9047E-03	3.2981E-05	1.1950E-07	3.6621E-06	3.2649E-05
27	4.0426E-04	-1.9047E-03	3.2665E-05	1.1950E-07	3.6621E-06	3.2649E-05
28	4.9078E-04	-1.9047E-03	3.2348E-05	1.1950E-07	3.6621E-06	3.2649E-05
29	5.7730E-04	-1.9047E-03	3.2031E-05	1.1950E-07	3.6621E-06	3.2649E-05
30	2.5062E-04	-1.9054E-03	3.3298E-05	1.1950E-07	3.6621E-06	3.2649E-05
31	3.3715E-04	-1.9054E-03	3.2981E-05	1.1950E-07	3.6621E-06	3.2649E-05
32	4.2367E-04	-1.9054E-03	3.2665E-05	1.1950E-07	3.6621E-06	3.2649E-05
33	5.1019E-04	-1.9054E-03	3.2348E-05	1.1950E-07	3.6621E-06	3.2649E-05
34	5.9671E-04	-1.9054E-03	3.2031E-05	1.1950E-07	3.6621E-06	3.2649E-05
MINIMUM	1.5115E-04	-2.3632E-03	3.2031E-05	1.1950E-07	3.6621E-06	3.2649E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.7678E-04	-1.9047E-03	8.4788E-05	1.1950E-07	3.6621E-06	3.2649E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	616.19	-656.80	40.846	0.097080	-156.98	-2147.2
2	586.95	-656.74	40.848	0.097080	-156.98	-2147.0
3	558.46	-656.68	40.850	0.097080	-156.99	-2146.7
4	529.97	-656.62	40.852	0.097080	-156.99	-2146.5
5	501.48	-656.56	40.853	0.097080	-156.99	-2146.2
6	472.99	-656.50	40.855	0.097080	-157.00	-2146.0
7	443.74	-656.44	40.857	0.097080	-157.00	-2145.7
8	1986.9	-656.44	39.823	0.097080	-152.54	-2147.2
9	1957.6	-656.38	39.825	0.097080	-152.54	-2147.0
10	1929.2	-656.32	39.827	0.097080	-152.55	-2146.7
11	1900.7	-656.26	39.829	0.097080	-152.55	-2146.5
12	1872.2	-656.20	39.830	0.097080	-152.56	-2146.2
13	1843.7	-656.15	39.832	0.097080	-152.56	-2146.0
14	1814.4	-656.09	39.834	0.097080	-152.57	-2145.7
15	613.22	-1151.1	19.378	0.097080	-59.073	-4969.5
16	867.23	-1151.1	19.291	0.097080	-58.785	-4969.5
17	1121.2	-1151.0	19.204	0.097080	-58.497	-4969.5
18	1375.3	-1151.0	19.116	0.097080	-58.209	-4969.5
19	1629.3	-1150.9	19.029	0.097080	-57.922	-4969.6
20	801.37	-1151.8	19.371	0.097080	-59.061	-4973.4
21	1055.4	-1151.8	19.284	0.097080	-58.773	-4973.4
22	1309.4	-1151.7	19.196	0.097080	-58.485	-4973.4
23	1563.4	-1151.7	19.109	0.097080	-58.198	-4973.5
24	1817.4	-1151.6	19.022	0.097080	-57.910	-4973.5
25	913.53	-1442.2	8.7764	0.063926	-18.294	-5521.1
26	1255.4	-1442.2	8.6511	0.063926	-17.927	-5521.0
27	1597.2	-1442.1	8.5258	0.063926	-17.560	-5521.0
28	1939.1	-1442.0	8.4005	0.063926	-17.193	-5521.0
29	2280.9	-1441.9	8.2753	0.063926	-16.826	-5521.0
30	990.22	-1442.6	8.7752	0.063926	-18.293	-5522.9
31	1332.1	-1442.6	8.6499	0.063926	-17.926	-5522.9
32	1673.9	-1442.5	8.5246	0.063926	-17.559	-5522.9
33	2015.8	-1442.4	8.3993	0.063926	-17.191	-5522.9
34	2357.6	-1442.4	8.2741	0.063926	-16.824	-5522.8
MINIMUM	443.74	-1442.6	8.2741	0.063926	-157.00	-5522.9
Pile N.	7	30	34	25	6	30
MAXIMUM	2357.6	-656.09	40.857	0.097080	-16.824	-2145.7
Pile N.	34	14	7	1	34	7

PILE GROUP STRESS, KN/ M\*\*2

APPALTATORE: Consorzio  Soci  	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>						
PROGETTAZIONE: Mandataria  Mandanti  							
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B	<table border="1"> <tr> <td>COMMESSA IF1N</td> <td>LOTTO 01 E ZZ</td> <td>CODIFICA RG</td> <td>DOCUMENTO MD0000 001</td> <td>REV. B</td> <td>FOGLIO 117 di 260</td> </tr> </table>	COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 117 di 260
COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 117 di 260		

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1	6034.7
2	6024.3
3	6014.1
4	6003.9
5	5993.7
6	5983.6
7	5973.1
8	6491.6
9	6481.2
10	6471.0
11	6460.8
12	6450.6
13	6440.4
14	6430.0
15	3316.5
16	3401.2
17	3485.8
18	3570.4
19	3655.1
20	3381.7
21	3466.3
22	3550.9
23	3635.6
24	3720.2
25	3757.8
26	3871.7
27	3985.6
28	4099.5
29	4213.5
30	3784.5
31	3898.4
32	4012.3
33	4126.3
34	4240.2

MINIMUM	3316.5
Pile N.	15
MAXIMUM	6491.6
Pile N.	8

\* EFFECTS FOR LATERALLY LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2	FLEX. RIG. z-DIR KN- M**2	FLEX. RIG. y-DIR KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	-2.3631E-03	-1.9974E-06	-755.10	-156.98	-656.83	-10.468	-157.35	-1.6961	205.40	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
2	-2.3628E-03	-1.9975E-06	-755.01	-156.98	-656.77	-10.468	-157.34	-1.6961	195.65	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
3	-2.3624E-03	-1.9975E-06	-754.92	-156.99	-656.71	-10.468	-157.32	-1.6961	186.15	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
4	-2.3621E-03	-1.9975E-06	-754.83	-156.99	-656.65	-10.468	-157.31	-1.6961	176.66	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
5	-2.3618E-03	-1.9975E-06	-754.75	-156.99	-656.59	-10.468	-157.30	-1.6961	167.16	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
6	-2.3615E-03	-1.9976E-06	-754.66	-157.00	-656.53	-10.468	-157.28	-1.6961	157.66	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
7	-2.3612E-03	-1.9976E-06	-754.57	-157.00	-656.46	-10.468	-157.27	-1.6962	147.91	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
8	-2.3631E-03	-1.9578E-06	-755.34	-152.54	-656.53	-10.248	-157.34	-1.6612	662.30	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
9	-2.3628E-03	-1.9578E-06	-755.26	-152.54	-656.47	-10.248	-157.33	-1.6612	652.55	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
10	-2.3624E-03	-1.9578E-06	-755.17	-152.55	-656.41	-10.248	-157.31	-1.6613	643.05	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
11	-2.3621E-03	-1.9579E-06	-755.08	-152.55	-656.35	-10.248	-157.30	-1.6613	633.55	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
12	-2.3618E-03	-1.9579E-06	-755.00	-152.56	-656.29	-10.248	-157.29	-1.6613	624.06	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
13	-2.3615E-03	-1.9579E-06	-754.91	-152.56	-656.23	-10.248	-157.27	-1.6613	614.56	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
14	-2.3612E-03	-1.9580E-06	-754.82	-152.57	-656.17	-10.248	-157.26	-1.6613	604.81	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.0000	0.0000	0.0000	12.500	5.0000	15.500	50.000	0.0000	0.0000
15	-2.3611E-03	-1.4307E-06	-1660.9	-59.073	-1151.1	-4.3193	-196.55	-1.0107	204.41	4.9219E+07	1.1340E+07
x( M)	0.0000	12.500	9.5000	0.0000	0.0000	10.500	5.0000	13.000	50.000	0.0000	0.0000
16	-2.3611E-03	-1.4258E-06	-1661.0	-58.785	-1151.1	-4.3033	-196.55	-1.0070	289.08	4.9219E+07	1.1340E+07
x( M)	0.0000	12.500	9.5000	0.0000	0.0000	10.500	5.0000	13.000	50.000	0.0000	0.0000
17	-2.3611E-03	-1.4208E-06	-1661.0	-58.497	-1151.0	-4.2872	-196.55	-1.0033	373.75	4.9219E+07	1.1340E+07
x( M)	0.0000	12.500	9.5000	0.0000	0.0000	10.500	5.0000	13.000	50.000	0.0000	0.0000
18	-2.3611E-03	-1.4159E-06	-1661.1	-58.209	-1151.0	-4.2712	-196.55	-0.9996	458.42	4.9219E+07	1.1340E+07
x( M)	0.0000	12.500	9.5000	0.0000	0.0000	10.500	5.0000	13.000	50.000	0.0000	0.0000
19	-2.3611E-03	-1.4109E-06	-1661.1	-57.922	-1151.0	-4.2551	-196.55	-0.9959	543.09	4.9219E+07	1.1340E+07
x( M)	0.0000	12.500	9.5000	0.0000	0.0000	10.500	5.0000	13.000	50.000	0.0000	0.0000
20	-2.3632E-03	-1.4306E-06	-1662.1	-59.061	-1151.9	-4.3188	-196.65	-1.0107	267.12	4.9219E+07	1.1340E+07



APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandataria

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF1N 01 E ZZ RG MD0000 001 B 119 di 260

x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
26	3.8772E-05	3.2981E-05	5521.0	11.155	501.44	8.6514	111.63	3.0725	3871.7	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
27	3.8774E-05	3.2665E-05	5521.0	11.034	501.47	8.5262	111.64	3.0236	3985.6	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
28	3.8776E-05	3.2348E-05	5521.0	10.913	501.49	8.4010	111.64	2.9748	4099.5	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
29	3.8778E-05	3.2031E-05	5521.0	10.793	501.51	8.2759	111.65	2.9259	4213.5	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
30	3.8783E-05	3.3298E-05	5522.9	11.275	501.60	8.7755	111.66	3.1216	3784.5	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
31	3.8785E-05	3.2981E-05	5522.9	11.155	501.62	8.6502	111.67	3.0727	3898.4	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
32	3.8788E-05	3.2665E-05	5522.9	11.034	501.65	8.5250	111.68	3.0238	4012.3	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
33	3.8790E-05	3.2348E-05	5522.9	10.913	501.67	8.3999	111.68	2.9749	4126.3	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
34	3.8792E-05	3.2031E-05	5522.8	10.793	501.69	8.2747	111.69	2.9261	4240.2	4.9219E+07	1.1340E+07
x( M)	12.960	0.0000	0.0000	6.4800	10.800	0.0000	13.320	7.2000	0.0000	0.0000	0.0000
Max.	5.2204E-05	8.4788E-05	5522.9	68.862	501.69	40.857	111.69	7.6039	6491.6	4.9219E+07	4.9219E+07
Pile N.	8	1	30	7	34	7	34	7	8	15	1

LOAD CASE : 12  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
46715.3	-34872.8	1119.11
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
564.125	12269.7	-2.46729E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
4.24802E-04	-2.30461E-03	1.10688E-04
ANGLE ROT. X, RAD	ANGLE ROT. Y, RAD	ANGLE ROT. Z, RAD
5.92973E-07	4.80729E-06	2.92931E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
*****	*****	*****	*****	*****	*****	*****
1	2.5391E-04	-2.3094E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
2	2.4084E-04	-2.3077E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
3	2.2810E-04	-2.3062E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
4	2.1536E-04	-2.3046E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
5	2.0262E-04	-2.3030E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
6	1.8988E-04	-2.3015E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
7	1.7680E-04	-2.2998E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
8	6.7280E-04	-2.3094E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
9	6.5973E-04	-2.3077E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
10	6.4699E-04	-2.3062E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
11	6.3425E-04	-2.3046E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
12	6.2151E-04	-2.3030E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
13	6.0877E-04	-2.3015E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
14	5.9569E-04	-2.2998E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
15	2.2749E-04	-2.2994E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
16	3.0511E-04	-2.2994E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
17	3.8274E-04	-2.2994E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
18	4.6037E-04	-2.2994E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05
19	5.3799E-04	-2.2994E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
20	3.1161E-04	-2.3098E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
21	3.8924E-04	-2.3098E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
22	4.6687E-04	-2.3098E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
23	5.4449E-04	-2.3098E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05
24	6.2212E-04	-2.3098E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
25	2.5681E-04	-1.8929E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
26	3.3444E-04	-1.8929E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
27	4.1206E-04	-1.8929E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05

<b>APPALTATORE:</b> Consorzio <b>Soci</b>   		<b>ITINERARIO NAPOLI – BARI</b>					
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   		<b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		<b>COMMESSA</b> <b>IF1N</b>	<b>LOTTO</b> <b>01 E ZZ</b>	<b>CODIFICA</b> <b>RG</b>	<b>DOCUMENTO</b> <b>MD0000 001</b>	<b>REV.</b> <b>B</b>	<b>FOGLIO</b> <b>120 di 260</b>

28	4.8969E-04	-1.8929E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05
29	5.6732E-04	-1.8929E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
30	2.8229E-04	-1.8961E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
31	3.5991E-04	-1.8961E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
32	4.3754E-04	-1.8961E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05
33	5.1517E-04	-1.8961E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05
34	5.9280E-04	-1.8961E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
MINIMUM	1.7680E-04	-2.3098E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.7280E-04	-1.8929E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
1	745.43	-648.00	56.073	0.4817	-216.30	-2119.4
2	707.05	-647.67	56.085	0.4817	-216.33	-2118.1
3	669.65	-647.35	56.097	0.4817	-216.36	-2116.9
4	632.25	-647.02	56.109	0.4817	-216.40	-2115.6
5	594.85	-646.70	56.121	0.4817	-216.43	-2114.4
6	557.45	-646.38	56.132	0.4817	-216.46	-2113.1
7	519.06	-646.05	56.144	0.4817	-216.49	-2111.8
8	1975.2	-647.74	51.007	0.4817	-194.19	-2119.6
9	1936.8	-647.41	51.018	0.4817	-194.22	-2118.3
10	1899.4	-647.09	51.029	0.4817	-194.25	-2117.0
11	1862.0	-646.77	51.040	0.4817	-194.28	-2115.8
12	1824.6	-646.44	51.050	0.4817	-194.30	-2114.5
13	1787.2	-646.12	51.061	0.4817	-194.33	-2113.3
14	1748.8	-645.79	51.072	0.4817	-194.36	-2112.0
15	667.85	-1134.7	26.384	0.4817	-80.523	-4903.6
16	895.75	-1134.7	25.957	0.4817	-79.087	-4903.6
17	1123.6	-1134.7	25.529	0.4817	-77.651	-4903.6
18	1351.5	-1134.6	25.102	0.4817	-76.215	-4903.7
19	1579.4	-1134.6	24.675	0.4817	-74.779	-4903.7
20	914.84	-1138.5	26.344	0.4817	-80.440	-4923.0
21	1142.7	-1138.5	25.917	0.4817	-79.005	-4923.1
22	1370.6	-1138.4	25.490	0.4817	-77.571	-4923.1
23	1598.5	-1138.4	25.063	0.4817	-76.136	-4923.1
24	1826.4	-1138.3	24.636	0.4817	-74.701	-4923.1
25	1014.7	-1444.2	12.634	0.3172	-27.305	-5550.2
26	1321.4	-1444.1	12.017	0.3172	-25.479	-5550.2
27	1628.1	-1444.0	11.400	0.3172	-23.654	-5550.1
28	1934.8	-1444.0	10.783	0.3172	-21.829	-5550.1
29	2241.5	-1443.9	10.167	0.3172	-20.004	-5550.1
30	1115.3	-1446.3	12.627	0.3172	-27.294	-5559.4
31	1422.0	-1446.2	12.011	0.3172	-25.469	-5559.4
32	1728.7	-1446.1	11.394	0.3172	-23.644	-5559.4
33	2035.4	-1446.1	10.777	0.3172	-21.820	-5559.4
34	2342.1	-1446.0	10.161	0.3172	-19.995	-5559.4
MINIMUM	519.06	-1446.3	10.161	0.3172	-216.49	-5559.4
Pile N.	7	30	34	25	7	30
MAXIMUM	2342.1	-645.79	56.144	0.4817	-19.995	-2111.8
Pile N.	34	14	7	1	34	7

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
1	2.5391E-04	-2.3094E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
2	2.4084E-04	-2.3077E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
3	2.2810E-04	-2.3062E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
4	2.1536E-04	-2.3046E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
5	2.0262E-04	-2.3030E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
6	1.8988E-04	-2.3015E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
7	1.7680E-04	-2.2998E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
8	6.7280E-04	-2.3094E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
9	6.5973E-04	-2.3077E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
10	6.4699E-04	-2.3062E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
11	6.3425E-04	-2.3046E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
12	6.2151E-04	-2.3030E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
13	6.0877E-04	-2.3015E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
14	5.9569E-04	-2.2998E-03	1.0645E-04	5.9297E-07	4.8073E-06	2.9293E-05
15	2.2749E-04	-2.2994E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
16	3.0511E-04	-2.2994E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
17	3.8274E-04	-2.2994E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
18	4.6037E-04	-2.2994E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05
19	5.3799E-04	-2.2994E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
20	3.1161E-04	-2.3098E-03	1.1383E-04	5.9297E-07	4.8073E-06	2.9293E-05
21	3.8924E-04	-2.3098E-03	1.1226E-04	5.9297E-07	4.8073E-06	2.9293E-05
22	4.6687E-04	-2.3098E-03	1.1069E-04	5.9297E-07	4.8073E-06	2.9293E-05
23	5.4449E-04	-2.3098E-03	1.0912E-04	5.9297E-07	4.8073E-06	2.9293E-05



## APPALTATORE:

Consorzio

Soci



## ITINERARIO NAPOLI – BARI

## PROGETTAZIONE:

Mandatario

Mandanti

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

## PROGETTO ESECUTIVO

## RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA  
IF1NLOTTO  
01 E ZZCODIFICA  
RGDOCUMENTO  
MD0000 001REV.  
BFOGLIO  
121 di  
260

24	6.2212E-04	-2.3098E-03	1.0755E-04	5.9297E-07	4.8073E-06	2.9293E-05
25	2.5681E-04	-1.8929E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
26	3.3444E-04	-1.8929E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
27	4.1206E-04	-1.8929E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05
28	4.8969E-04	-1.8929E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05
29	5.6732E-04	-1.8929E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
30	2.8229E-04	-1.8961E-03	4.6528E-05	5.9297E-07	4.8073E-06	2.9293E-05
31	3.5991E-04	-1.8961E-03	4.4957E-05	5.9297E-07	4.8073E-06	2.9293E-05
32	4.3754E-04	-1.8961E-03	4.3386E-05	5.9297E-07	4.8073E-06	2.9293E-05
33	5.1517E-04	-1.8961E-03	4.1814E-05	5.9297E-07	4.8073E-06	2.9293E-05
34	5.9280E-04	-1.8961E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
MINIMUM	1.7680E-04	-2.3098E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.7280E-04	-1.8929E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	8	25	1	1	1	1

## \* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	745.43	-648.00	56.073	0.4817	-216.30	-2119.4
2	707.05	-647.67	56.085	0.4817	-216.33	-2118.1
3	669.65	-647.35	56.097	0.4817	-216.36	-2116.9
4	632.25	-647.02	56.109	0.4817	-216.40	-2115.6
5	594.85	-646.70	56.121	0.4817	-216.43	-2114.4
6	557.45	-646.38	56.132	0.4817	-216.46	-2113.1
7	519.06	-646.05	56.144	0.4817	-216.49	-2111.8
8	1975.2	-647.74	51.007	0.4817	-194.19	-2119.6
9	1936.8	-647.41	51.018	0.4817	-194.22	-2118.3
10	1899.4	-647.09	51.029	0.4817	-194.25	-2117.0
11	1862.0	-646.77	51.040	0.4817	-194.28	-2115.8
12	1824.6	-646.44	51.050	0.4817	-194.30	-2114.5
13	1787.2	-646.12	51.061	0.4817	-194.33	-2113.3
14	1748.8	-645.79	51.072	0.4817	-194.36	-2112.0
15	667.85	-1134.7	26.384	0.4817	-80.523	-4903.6
16	895.75	-1134.7	25.957	0.4817	-79.087	-4903.6
17	1123.6	-1134.7	25.529	0.4817	-77.651	-4903.6
18	1351.5	-1134.6	25.102	0.4817	-76.215	-4903.7
19	1579.4	-1134.6	24.675	0.4817	-74.779	-4903.7
20	914.84	-1138.5	26.344	0.4817	-80.440	-4923.0
21	1142.7	-1138.5	25.917	0.4817	-79.005	-4923.1
22	1370.6	-1138.4	25.490	0.4817	-77.571	-4923.1
23	1598.5	-1138.4	25.063	0.4817	-76.136	-4923.1
24	1826.4	-1138.3	24.636	0.4817	-74.701	-4923.1
25	1014.7	-1444.2	12.634	0.3172	-27.305	-5550.2
26	1321.4	-1444.1	12.017	0.3172	-25.479	-5550.2
27	1628.1	-1444.0	11.400	0.3172	-23.654	-5550.1
28	1934.8	-1444.0	10.783	0.3172	-21.829	-5550.1
29	2241.5	-1443.9	10.167	0.3172	-20.004	-5550.1
30	1115.3	-1446.3	12.627	0.3172	-27.294	-5559.4
31	1422.0	-1446.2	12.011	0.3172	-25.469	-5559.4
32	1728.7	-1446.1	11.394	0.3172	-23.644	-5559.4
33	2035.4	-1446.1	10.777	0.3172	-21.820	-5559.4
34	2342.1	-1446.0	10.161	0.3172	-19.995	-5559.4
MINIMUM	519.06	-1446.3	10.161	0.3172	-216.49	-5559.4
Pile N.	7	30	34	25	7	30
MAXIMUM	2342.1	-645.79	56.144	0.4817	-19.995	-2111.8
Pile N.	34	14	7	1	34	7

## PILE GROUP STRESS, KN/ M\*\*2

PILE GROUP	STRESS, KN/ M**2
*****	*****
1	6003.2
2	5986.9
3	5971.0
4	5955.1
5	5939.2
6	5923.3
7	5907.0
8	6413.2
9	6396.9
10	6381.0
11	6365.1
12	6349.2
13	6333.4
14	6317.1
15	3297.2
16	3372.9
17	3448.6
18	3524.3
19	3600.0
20	3391.6
21	3467.3
22	3543.0
23	3618.7
24	3694.4
25	3810.1





<b>APPALTATORE:</b> Consorzio <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>	CODIFICA <b>RG</b>	DOCUMENTO <b>MD0000 001</b>	REV. <b>B</b>	FOGLIO <b>124 di 260</b>

\*\*\*\*\* SUMMARY FOR LOAD CASES AND COMBINATIONS \*\*\*\*\*

\*\*\*\*\* LOAD CASES RESULTS \*\*\*\*\*

LOAD CASE : 1

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
45856.2	-34618.8	819.782	310.376	7476.06	-2.43379E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
4.16991E-04	-2.28649E-03	7.82827E-05	3.25683E-07	3.16783E-06	2.93956E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	1.8141E-04	-2.2893E-03	3.2207E-05	3.2568E-07	3.1678E-06	2.9396E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.5257E-04	-1.8741E-03	8.0611E-05	3.2568E-07	3.1678E-06	2.9396E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	532.57	-1432.3	8.9508	0.1742	-155.69	-5497.7
Pile N.	7	30	34	25	7	30
MAXIMUM	2296.3	-642.50	40.014	0.2646	-19.835	-2099.0
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	1.8141E-04	-2.2893E-03	3.2207E-05	3.2568E-07	3.1678E-06	2.9396E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.5257E-04	-1.8741E-03	8.0611E-05	3.2568E-07	3.1678E-06	2.9396E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	532.57	-1432.3	8.9508	0.1742	-155.69	-5497.7
Pile N.	7	30	34	25	7	30
MAXIMUM	2296.3	-642.50	40.014	0.2646	-19.835	-2099.0
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-2.2893E-03	-1.9121E-06	-2353.9	-155.69	-1432.4	-10.034	-627.70	-1.6250	177.52
Pile N.	20	7	33	7	30	7	30	7	7
Max.	5.1000E-05	8.0611E-05	5497.7	65.960	495.27	40.015	110.27	7.4366	6348.6
Pile N.	8	1	30	7	34	7	34	7	8

LOAD CASE : 2

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
45390.2	-37757.6	819.782	273.326	7476.06	-2.26412E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
4.12753E-04	-2.68576E-03	8.08705E-05	2.98418E-07	3.19971E-06	4.33009E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	7.7490E-05	-2.6884E-03	3.4493E-05	2.9842E-07	3.1997E-06	4.3301E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	7.4802E-04	-2.0787E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	227.50	-1528.5	9.5488	0.1596	-156.62	-5835.6
Pile N.	7	30	34	25	7	30
MAXIMUM	2571.0	-713.89	39.611	0.2424	-21.882	-2350.9
Pile N.	34	14	7	1	34	7

<b>APPALTATORE:</b> Consorzio <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>	CODIFICA <b>RG</b>	DOCUMENTO <b>MD0000 001</b>	REV. <b>B</b>	FOGLIO <b>125 di 260</b>

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	7.7490E-05	-2.6884E-03	3.4493E-05	2.9842E-07	3.1997E-06	4.3301E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	7.4802E-04	-2.0787E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	227.50	-1528.5	9.5488	0.1596	-156.62	-5835.6
Pile N.	7	30	34	25	7	30
MAXIMUM	2571.0	-713.89	39.611	0.2424	-21.882	-2350.9
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR Laterally LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR z-DIR KN	SHEAR y-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-2.6884E-03	-1.9284E-06	-2586.2	-156.62	-1528.6	-10.210	-687.77	-1.6496	75.832
Pile N.	20	6	33	7	30	5	30	7	7
Max.	5.7377E-05	8.3004E-05	5835.6	66.630	544.12	39.611	121.13	7.1381	7124.4
Pile N.	8	1	30	7	34	7	34	7	8

LOAD CASE : 3

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
42620.6	-37201.1	716.443	338.681	4390.08	-2.32585E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
3.87568E-04	-2.60438E-03	6.64617E-05	3.65862E-07	2.29031E-06	3.99901E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	8.3270E-05	-2.6076E-03	3.2458E-05	3.6586E-07	2.2903E-06	3.9990E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.9186E-04	-2.0435E-03	6.9078E-05	3.6586E-07	2.2903E-06	3.9990E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	244.47	-1515.0	9.8528	0.1957	-137.53	-5796.1
Pile N.	7	30	34	25	7	30
MAXIMUM	2392.7	-699.93	34.193	0.2972	-24.649	-2302.1
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	8.3270E-05	-2.6076E-03	3.2458E-05	3.6586E-07	2.2903E-06	3.9990E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.9186E-04	-2.0435E-03	6.9078E-05	3.6586E-07	2.2903E-06	3.9990E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	244.47	-1515.0	9.8528	0.1957	-137.53	-5796.1
Pile N.	7	30	34	25	7	30
MAXIMUM	2392.7	-699.93	34.193	0.2972	-24.649	-2302.1
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR Laterally LOADED PILE \*







PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR z-DIR KN	SHEAR y-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-2.6076E-03	-1.6187E-06	-2548.7	-137.53	-1515.0	-8.5812	-678.75	-1.3869	81.489
Pile N.	20	6	32	7	30	7	30	6	7
Max.	5.6112E-05	6.9078E-05	5796.1	55.966	536.27	34.193	119.39	6.1370	6939.2
Pile N.	8	1	30	7	34	7	34	7	8

LOAD CASE : 4

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
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<b>APPALTATORE:</b> Consorzio <b>Soci</b>   			<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   								
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>							COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>

46715.3     -34872.8     1119.11     564.125     12269.7     -2.46729E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*  
 DISP X, M     DISP Y, M     DISP Z, M     ROT X,RAD     ROT Y,RAD     ROT Z,RAD  
 4.24802E-04     -2.30461E-03     1.10688E-04     5.92973E-07     4.80729E-06     2.92931E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*  
 DISP. X, M     DISP. Y, M     DISP. Z, M     ROT. X,RAD     ROT. Y,RAD     ROT. Z,RAD  
 \*\*\*\*\*  
 MINIMUM     1.7680E-04     -2.3098E-03     4.0243E-05     5.9297E-07     4.8073E-06     2.9293E-05  
 Pile N.     7     20     29     1     1     1  
 MAXIMUM     6.7280E-04     -1.8929E-03     1.1493E-04     5.9297E-07     4.8073E-06     2.9293E-05  
 Pile N.     8     25     1     1     1     1

\* PILE TOP REACTIONS, GLOBAL \*  
 FOR. X, KN     FOR. Y, KN     FOR. Z, KN     MOM X, KN- M     MOM Y, KN- M     MOM Z, KN- M  
 \*\*\*\*\*  
 MINIMUM     519.06     -1446.3     10.161     0.3172     -216.49     -5559.4  
 Pile N.     7     30     34     25     7     30  
 MAXIMUM     2342.1     -645.79     56.144     0.4817     -19.995     -2111.8  
 Pile N.     34     14     7     1     34     7

\* PILE TOP DISPLACEMENTS, LOCAL \*  
 DISP. X, M     DISP. y, M     DISP. z, M     ROT. x,RAD     ROT. y,RAD     ROT. z,RAD  
 \*\*\*\*\*  
 MINIMUM     1.7680E-04     -2.3098E-03     4.0243E-05     5.9297E-07     4.8073E-06     2.9293E-05  
 Pile N.     7     20     29     1     1     1  
 MAXIMUM     6.7280E-04     -1.8929E-03     1.1493E-04     5.9297E-07     4.8073E-06     2.9293E-05  
 Pile N.     8     25     1     1     1     1

\* PILE TOP REACTIONS, LOCAL \*  
 AXIAL, KN     LAT. y, KN     LAT. z, KN     MOM x, KN- M     MOM y, KN- M     MOM z, KN- M  
 \*\*\*\*\*  
 MINIMUM     519.06     -1446.3     10.161     0.3172     -216.49     -5559.4  
 Pile N.     7     30     34     25     7     30  
 MAXIMUM     2342.1     -645.79     56.144     0.4817     -19.995     -2111.8  
 Pile N.     34     14     7     1     34     7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR	DISPL. z-DIR	MOMENT z-DIR	MOMENT y-DIR	SHEAR y-DIR	SHEAR z-DIR	SOIL REACT y-DIR	SOIL REACT z-DIR	TOTAL STRESS
	M	M	KN- M	KN- M	KN	KN	KN/ M	KN/ M	KN/ M**2
Min.	-2.3098E-03	-2.7188E-06	-2380.5	-216.49	-1446.3	-14.241	-635.56	-2.3079	173.02
Pile N.	20	7	34	7	30	7	30	7	7
Max.	5.1309E-05	1.1493E-04	5559.4	93.699	500.87	56.145	111.52	10.466	6413.2
Pile N.	8	1	30	7	34	7	34	7	8

LOAD CASE :     5

\* TABLE L \*     COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*  
 LOAD X, KN     LOAD Y, KN     LOAD Z, KN     MOM X, KN- M     MOM Y, KN- M     MOM Z, KN- M  
 39677.2     -35990.8     930.021     469.710     9302.02     -2.36255E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*  
 DISP X, M     DISP Y, M     DISP Z, M     ROT X,RAD     ROT Y,RAD     ROT Z,RAD  
 3.60802E-04     -2.45874E-03     9.15691E-05     5.01127E-07     3.80157E-06     3.53711E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*  
 DISP. X, M     DISP. Y, M     DISP. Z, M     ROT. X,RAD     ROT. Y,RAD     ROT. Z,RAD  
 \*\*\*\*\*  
 MINIMUM     7.7410E-05     -2.4631E-03     3.5691E-05     5.0113E-07     3.8016E-06     3.5371E-05  
 Pile N.     7     20     29     1     1     1  
 MAXIMUM     6.4419E-04     -1.9622E-03     9.5152E-05     5.0113E-07     3.8016E-06     3.5371E-05  
 Pile N.     8     25     1     1     1     1

\* PILE TOP REACTIONS, GLOBAL \*  
 FOR. X, KN     FOR. Y, KN     FOR. Z, KN     MOM X, KN- M     MOM Y, KN- M     MOM Z, KN- M  
 \*\*\*\*\*  
 MINIMUM     227.26     -1474.6     9.4621     0.2681     -180.19     -5646.6  
 Pile N.     7     30     34     25     7     30  
 MAXIMUM     2206.0     -673.39     46.154     0.4071     -20.161     -2207.4  
 Pile N.     34     14     7     1     34     7

\* PILE TOP DISPLACEMENTS, LOCAL \*  
 DISP. X, M     DISP. y, M     DISP. z, M     ROT. x,RAD     ROT. y,RAD     ROT. z,RAD  
 \*\*\*\*\*  
 MINIMUM     7.7410E-05     -2.4631E-03     3.5691E-05     5.0113E-07     3.8016E-06     3.5371E-05  
 Pile N.     7     20     29     1     1     1  
 MAXIMUM     6.4419E-04     -1.9622E-03     9.5152E-05     5.0113E-07     3.8016E-06     3.5371E-05  
 Pile N.     8     25     1     1     1     1

\* PILE TOP REACTIONS, LOCAL \*  
 AXIAL, KN     LAT. y, KN     LAT. z, KN     MOM x, KN- M     MOM y, KN- M     MOM z, KN- M  
 \*\*\*\*\*

<b>APPALTATORE:</b> Consorzio <span style="float: right;">Soci</span>   		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>
<b>PROGETTAZIONE:</b> Mandataria <span style="float: right;">Mandanti</span>   		
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		

MINIMUM	227.26	-1474.6	9.4621	0.2681	-180.19	-5646.6
Pile N.	7	30	34	25	7	30
MAXIMUM	2206.0	-673.39	46.154	0.4071	-20.161	-2207.4
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR Laterally Loaded Pile \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Min.	-2.4631E-03	-2.2296E-06	-2455.1	-180.19	-1474.7	-11.763	-653.94	-1.9007	75.754
Pile N.	20	7	32	7	30	7	30	7	7
Max.	5.3801E-05	9.5152E-05	5646.6	77.114	516.57	46.154	115.00	8.4772	6640.6
Pile N.	8	1	30	7	34	7	34	7	8

LOAD CASE : 6

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
46715.3	-34872.8	1119.11	564.125	12269.7	-2.46729E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
4.24802E-04	-2.30461E-03	1.10688E-04	5.92973E-07	4.80729E-06	2.92931E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
*****	*****	*****	*****	*****	*****	*****
MINIMUM	1.7680E-04	-2.3098E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.7280E-04	-1.8929E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
MINIMUM	519.06	-1446.3	10.161	0.3172	-216.49	-5559.4
Pile N.	7	30	34	25	7	30
MAXIMUM	2342.1	-645.79	56.144	0.4817	-19.995	-2111.8
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. X, M	DISP. Y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
MINIMUM	1.7680E-04	-2.3098E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.7280E-04	-1.8929E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
*****	*****	*****	*****	*****	*****	*****
MINIMUM	519.06	-1446.3	10.161	0.3172	-216.49	-5559.4
Pile N.	7	30	34	25	7	30
MAXIMUM	2342.1	-645.79	56.144	0.4817	-19.995	-2111.8
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR Laterally Loaded Pile \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Min.	-2.3098E-03	-2.7188E-06	-2380.5	-216.49	-1446.3	-14.241	-635.56	-2.3079	173.02
Pile N.	20	7	34	7	30	7	30	7	7
Max.	5.1309E-05	1.1493E-04	5559.4	93.699	500.87	56.145	111.52	10.466	6413.2
Pile N.	8	1	30	7	34	7	34	7	8

LOAD CASE : 7

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
46715.3	-34872.8	1119.11	564.125	12269.7	-2.46729E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*


DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
4.24802E-04	-2.30461E-03	1.10688E-04	5.92973E-07	4.80729E-06	2.92931E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
*****	*****	*****	*****	*****	*****	*****
MINIMUM	1.7680E-04	-2.3098E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	7	20	29	1	1	1





<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span>   			<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span>   								
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>			COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>	CODIFICA <b>RG</b>	DOCUMENTO <b>MD0000 001</b>	REV. <b>B</b>	FOGLIO <b>129 di 260</b>

Min.	-2.6444E-03	-1.6895E-06	-2572.6	-144.93	-1525.3	-8.9659	-685.09	-1.4495	79.895
Pile N.	20	7	34	7	30	7	30	5	7
Max.	5.6690E-05	7.2122E-05	5834.3	58.471	541.29	35.818	120.50	6.3959	7017.8
Pile N.	8	1	30	7	34	7	33	7	8

LOAD CASE : 9

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
46715.3	-34872.8	1119.11	564.125	12269.7	-2.46729E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
4.24802E-04	-2.30461E-03	1.10688E-04	5.92973E-07	4.80729E-06	2.92931E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	1.7680E-04	-2.3098E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.7280E-04	-1.8929E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	519.06	-1446.3	10.161	0.3172	-216.49	-5559.4
Pile N.	7	30	34	25	7	30
MAXIMUM	2342.1	-645.79	56.144	0.4817	-19.995	-2111.8
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	1.7680E-04	-2.3098E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.7280E-04	-1.8929E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	519.06	-1446.3	10.161	0.3172	-216.49	-5559.4
Pile N.	7	30	34	25	7	30
MAXIMUM	2342.1	-645.79	56.144	0.4817	-19.995	-2111.8
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-2.3098E-03	-2.7188E-06	-2380.5	-216.49	-1446.3	-14.241	-635.56	-2.3079	173.02
Pile N.	20	7	34	7	30	7	30	7	7
Max.	5.1309E-05	1.1493E-04	5559.4	93.699	500.87	56.145	111.52	10.466	6413.2
Pile N.	8	1	30	7	34	7	34	7	8

LOAD CASE : 10

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
45390.2	-37757.6	819.782	273.326	7476.06	-2.26412E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
4.12753E-04	-2.68576E-03	8.08705E-05	2.98418E-07	3.19971E-06	4.33009E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	7.7490E-05	-2.6884E-03	3.4493E-05	2.9842E-07	3.1997E-06	4.3301E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	7.4802E-04	-2.0787E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	227.50	-1528.5	9.5488	0.1596	-156.62	-5835.6
Pile N.	7	30	34	25	7	30
MAXIMUM	2571.0	-713.89	39.611	0.2424	-21.882	-2350.9
Pile N.	34	14	7	1	34	7

<b>APPALTATORE:</b> Consorzio <b>Soci</b>   		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>							COMMESSA <b>IF1N</b>

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	7.7490E-05	-2.6884E-03	3.4493E-05	2.9842E-07	3.1997E-06	4.3301E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	7.4802E-04	-2.0787E-03	8.3004E-05	2.9842E-07	3.1997E-06	4.3301E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	227.50	-1528.5	9.5488	0.1596	-156.62	-5835.6
Pile N.	7	30	34	25	7	30
MAXIMUM	2571.0	-713.89	39.611	0.2424	-21.882	-2350.9
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-2.6884E-03	-1.9284E-06	-2586.2	-156.62	-1528.6	-10.210	-687.77	-1.6496	75.832
Pile N.	20	6	33	7	30	5	30	7	7
Max.	5.7377E-05	8.3004E-05	5835.6	66.630	544.12	39.611	121.13	7.1381	7124.4
Pile N.	8	1	30	7	34	7	34	7	8

LOAD CASE : 11

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
45523.2	-35126.8	842.013	111.427	9402.60	-2.36722E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
4.13962E-04	-2.36212E-03	8.39335E-05	1.19498E-07	3.66206E-06	3.26495E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	1.5115E-04	-2.3632E-03	3.2031E-05	1.1950E-07	3.6621E-06	3.2649E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.7678E-04	-1.9047E-03	8.4788E-05	1.1950E-07	3.6621E-06	3.2649E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	443.74	-1442.6	8.2741	0.063926	-157.00	-5522.9
Pile N.	7	30	34	25	6	30
MAXIMUM	2357.6	-656.09	40.857	0.097080	-16.824	-2145.7
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	1.5115E-04	-2.3632E-03	3.2031E-05	1.1950E-07	3.6621E-06	3.2649E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.7678E-04	-1.9047E-03	8.4788E-05	1.1950E-07	3.6621E-06	3.2649E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	443.74	-1442.6	8.2741	0.063926	-157.00	-5522.9
Pile N.	7	30	34	25	6	30
MAXIMUM	2357.6	-656.09	40.857	0.097080	-16.824	-2145.7
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR LATERALLY LOADED PILE \*







PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-2.3632E-03	-1.9976E-06	-2384.4	-157.00	-1442.7	-10.468	-634.74	-1.6962	147.91
Pile N.	20	6	33	6	30	1	30	7	7
Max.	5.2204E-05	8.4788E-05	5522.9	68.862	501.69	40.857	111.69	7.6039	6491.6
Pile N.	8	1	30	7	34	7	34	7	8

LOAD CASE : 12

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
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<b>APPALTATORE:</b> Consorzio <span style="margin-left: 100px;">Soci</span>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>												
<b>PROGETTAZIONE:</b> Mandataria <span style="margin-left: 100px;">Mandanti</span>   													
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">COMMESSA</td> <td style="width: 15%;">LOTTO</td> <td style="width: 15%;">CODIFICA</td> <td style="width: 15%;">DOCUMENTO</td> <td style="width: 15%;">REV.</td> <td style="width: 15%;">FOGLIO</td> </tr> <tr> <td>IF1N</td> <td>01 E ZZ</td> <td>RG</td> <td>MD0000 001</td> <td>B</td> <td>131 di 260</td> </tr> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF1N	01 E ZZ	RG	MD0000 001	B	131 di 260
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO								
IF1N	01 E ZZ	RG	MD0000 001	B	131 di 260								

46715.3      -34872.8      1119.11      564.125      12269.7      -2.46729E+05

**\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \***

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
4.24802E-04	-2.30461E-03	1.10688E-04	5.92973E-07	4.80729E-06	2.92931E-05

**\* PILE TOP DISPLACEMENTS, GLOBAL \***

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	1.7680E-04	-2.3098E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.7280E-04	-1.8929E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	8	25	1	1	1	1

**\* PILE TOP REACTIONS, GLOBAL \***

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	519.06	-1446.3	10.161	0.3172	-216.49	-5559.4
Pile N.	7	30	34	25	7	30
MAXIMUM	2342.1	-645.79	56.144	0.4817	-19.995	-2111.8
Pile N.	34	14	7	1	34	7

**\* PILE TOP DISPLACEMENTS, LOCAL \***

	DISP. X, M	DISP. Y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	1.7680E-04	-2.3098E-03	4.0243E-05	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.7280E-04	-1.8929E-03	1.1493E-04	5.9297E-07	4.8073E-06	2.9293E-05
Pile N.	8	25	1	1	1	1

**\* PILE TOP REACTIONS, LOCAL \***

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	519.06	-1446.3	10.161	0.3172	-216.49	-5559.4
Pile N.	7	30	34	25	7	30
MAXIMUM	2342.1	-645.79	56.144	0.4817	-19.995	-2111.8
Pile N.	34	14	7	1	34	7

**\* EFFECTS FOR LATERALLY LOADED PILE \***

PILE	DISPL. y-DIR	DISPL. z-DIR	MOMENT z-DIR	MOMENT y-DIR	SHEAR y-DIR	SHEAR z-DIR	SOIL REACT y-DIR	SOIL REACT z-DIR	TOTAL STRESS
	M	M	KN- M	KN- M	KN	KN	KN/ M	KN/ M	KN/ M**2
Min.	-2.3098E-03	-2.7188E-06	-2380.5	-216.49	-1446.3	-14.241	-635.56	-2.3079	173.02
Pile N.	20	7	34	7	30	7	30	7	7
Max.	5.1309E-05	1.1493E-04	5559.4	93.699	500.87	56.145	111.52	10.466	6413.2
Pile N.	8	1	30	7	34	7	34	7	8

APPALTATORE: Conorzio Soci HIRPINIA AV SALINI IMPREGILO S.P.A. ASTALDI S.P.A.	<b>ITINERARIO NAPOLI – BARI</b>					
PROGETTAZIONE: Mandataria Mandanti ROCKSOIL S.P.A. NET ENGINEERING S.P.A. ALPINA S.P.A.	<b>RADDOPPIO TRATTA APICE – ORSARA I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B	COMMESSA IF28	LOTTO 01	CODIFICA E ZZ CL	DOCUMENTO VI0303 001	REV. B	FOGLIO 132 di 260

## 13.2 PILA SLU – SLV

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GROUP for Windows, Version 2016.10.13

Serial Number : 228330872

Analysis of A Group of Piles
Subjected to Axial and Lateral Loading

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Time and Date of Analysis
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Date: February 11, 2020 Time: 15:59:40

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\*\*\*\*\* COMPUTATION RESULTS \*\*\*\*\*

New Group

\*\*\*\*\* LOAD CASES RESULTS \*\*\*\*\*

LOAD CASE : 1  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
62526.2	-43905.2	1216.58
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
464.137	11119.4	-3.23922E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
5.68577E-04	-2.99118E-03	1.21688E-04
ANGLE ROT. X,RAD	ANGLE ROT. Y,RAD	ANGLE ROT. Z,RAD
5.19776E-07	4.78111E-06	3.92286E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
*****	*****	*****	*****	*****	*****	*****
1	3.2644E-04	-2.9953E-03	1.2541E-04	5.1978E-07	4.7811E-06	3.9229E-05
2	3.1343E-04	-2.9939E-03	1.2541E-04	5.1978E-07	4.7811E-06	3.9229E-05
3	3.0076E-04	-2.9926E-03	1.2541E-04	5.1978E-07	4.7811E-06	3.9229E-05
4	2.8809E-04	-2.9912E-03	1.2541E-04	5.1978E-07	4.7811E-06	3.9229E-05
5	2.7542E-04	-2.9898E-03	1.2541E-04	5.1978E-07	4.7811E-06	3.9229E-05
6	2.6275E-04	-2.9884E-03	1.2541E-04	5.1978E-07	4.7811E-06	3.9229E-05
7	2.4975E-04	-2.9870E-03	1.2541E-04	5.1978E-07	4.7811E-06	3.9229E-05
8	8.8741E-04	-2.9953E-03	1.1797E-04	5.1978E-07	4.7811E-06	3.9229E-05
9	8.7440E-04	-2.9939E-03	1.1797E-04	5.1978E-07	4.7811E-06	3.9229E-05

## APPALTATORE:

Consorzio



Soci



## ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

## PROGETTAZIONE:

Mandataria



Mandanti



## PROGETTO ESECUTIVO

## RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	133 di 260

10	8.6173E-04	-2.9926E-03	1.1797E-04	5.1978E-07	4.7811E-06	3.9229E-05
11	8.4906E-04	-2.9912E-03	1.1797E-04	5.1978E-07	4.7811E-06	3.9229E-05
12	8.3639E-04	-2.9898E-03	1.1797E-04	5.1978E-07	4.7811E-06	3.9229E-05
13	8.2372E-04	-2.9884E-03	1.1797E-04	5.1978E-07	4.7811E-06	3.9229E-05
14	8.1072E-04	-2.9870E-03	1.1797E-04	5.1978E-07	4.7811E-06	3.9229E-05
15	3.1883E-04	-2.9866E-03	1.2444E-04	5.1978E-07	4.7811E-06	3.9229E-05
16	4.2279E-04	-2.9866E-03	1.2307E-04	5.1978E-07	4.7811E-06	3.9229E-05
17	5.2674E-04	-2.9866E-03	1.2169E-04	5.1978E-07	4.7811E-06	3.9229E-05
18	6.3070E-04	-2.9866E-03	1.2031E-04	5.1978E-07	4.7811E-06	3.9229E-05
19	7.3465E-04	-2.9866E-03	1.1893E-04	5.1978E-07	4.7811E-06	3.9229E-05
20	4.0250E-04	-2.9957E-03	1.2444E-04	5.1978E-07	4.7811E-06	3.9229E-05
21	5.0646E-04	-2.9957E-03	1.2307E-04	5.1978E-07	4.7811E-06	3.9229E-05
22	6.1041E-04	-2.9957E-03	1.2169E-04	5.1978E-07	4.7811E-06	3.9229E-05
23	7.1437E-04	-2.9957E-03	1.2031E-04	5.1978E-07	4.7811E-06	3.9229E-05
24	8.1832E-04	-2.9957E-03	1.1893E-04	5.1978E-07	4.7811E-06	3.9229E-05
25	3.4800E-04	-2.4406E-03	5.7508E-05	5.1978E-07	4.7811E-06	3.9229E-05
26	4.5195E-04	-2.4406E-03	5.6130E-05	5.1978E-07	4.7811E-06	3.9229E-05
27	5.5591E-04	-2.4406E-03	5.4753E-05	5.1978E-07	4.7811E-06	3.9229E-05
28	6.5986E-04	-2.4406E-03	5.3376E-05	5.1978E-07	4.7811E-06	3.9229E-05
29	7.6382E-04	-2.4406E-03	5.1998E-05	5.1978E-07	4.7811E-06	3.9229E-05
30	3.7334E-04	-2.4434E-03	5.7508E-05	5.1978E-07	4.7811E-06	3.9229E-05
31	4.7729E-04	-2.4434E-03	5.6130E-05	5.1978E-07	4.7811E-06	3.9229E-05
32	5.8125E-04	-2.4434E-03	5.4753E-05	5.1978E-07	4.7811E-06	3.9229E-05
33	6.8520E-04	-2.4434E-03	5.3376E-05	5.1978E-07	4.7811E-06	3.9229E-05
34	7.8916E-04	-2.4434E-03	5.1998E-05	5.1978E-07	4.7811E-06	3.9229E-05
MINIMUM	2.4975E-04	-2.9957E-03	5.1998E-05	5.1978E-07	4.7811E-06	3.9229E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	8.8741E-04	-2.4406E-03	1.2541E-04	5.1978E-07	4.7811E-06	3.9229E-05
Pile N.	8	25	1	1	1	1

## \* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
1	958.36	-779.59	59.302	0.4223	-238.40	-2614.0
2	920.18	-779.33	59.312	0.4223	-238.43	-2613.0
3	882.98	-779.07	59.321	0.4223	-238.46	-2611.9
4	845.79	-778.82	59.330	0.4223	-238.48	-2610.9
5	808.59	-778.57	59.340	0.4223	-238.51	-2609.8
6	771.39	-778.31	59.349	0.4223	-238.54	-2608.8
7	733.21	-778.05	59.359	0.4223	-238.56	-2607.7
8	2605.3	-779.11	55.068	0.4223	-219.44	-2614.3
9	2567.1	-778.85	55.077	0.4223	-219.47	-2613.2
10	2529.9	-778.59	55.085	0.4223	-219.50	-2612.1
11	2492.7	-778.34	55.094	0.4223	-219.52	-2611.1
12	2455.5	-778.09	55.103	0.4223	-219.55	-2610.1
13	2418.3	-777.83	55.112	0.4223	-219.57	-2609.0
14	2380.1	-777.57	55.121	0.4223	-219.60	-2607.9
15	936.03	-1355.2	26.995	0.4223	-85.190	-6001.6
16	1241.2	-1355.1	26.646	0.4223	-83.995	-6001.6
17	1546.4	-1355.1	26.298	0.4223	-82.801	-6001.6
18	1851.6	-1355.0	25.949	0.4223	-81.606	-6001.6
19	2156.8	-1354.9	25.601	0.4223	-80.412	-6001.6
20	1181.7	-1358.2	26.965	0.4223	-85.130	-6017.5
21	1486.9	-1358.1	26.617	0.4223	-83.936	-6017.6
22	1792.1	-1358.0	26.269	0.4223	-82.742	-6017.6
23	2097.2	-1358.0	25.920	0.4223	-81.548	-6017.6
24	2402.4	-1357.9	25.572	0.4223	-80.355	-6017.6
25	1374.9	-1943.3	16.333	0.2781	-39.571	-7544.8
26	1785.7	-1943.1	15.807	0.2781	-37.983	-7544.8
27	2196.4	-1943.0	15.281	0.2781	-36.394	-7544.8
28	2607.1	-1942.9	14.755	0.2781	-34.806	-7544.7
29	3017.9	-1942.8	14.229	0.2781	-33.217	-7544.7
30	1475.1	-1945.1	16.327	0.2781	-39.562	-7553.1
31	1885.8	-1945.0	15.801	0.2781	-37.974	-7553.1
32	2296.5	-1944.9	15.275	0.2781	-36.385	-7553.1
33	2707.2	-1944.8	14.749	0.2781	-34.797	-7553.0
34	3118.0	-1944.7	14.223	0.2781	-33.209	-7553.0
MINIMUM	733.21	-1945.1	14.223	0.2781	-238.56	-7553.1
Pile N.	7	30	34	25	7	30
MAXIMUM	3118.0	-777.57	59.359	0.4223	-33.209	-2607.7
Pile N.	34	14	7	1	34	7

## THE PILE COORDINATE SYSTEM (LOCAL AXES)

## \* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
1	3.2644E-04	-2.9953E-03	1.2541E-04	5.1978E-07	4.7811E-06	3.9229E-05
2	3.1343E-04	-2.9939E-03	1.2541E-04	5.1978E-07	4.7811E-06	3.9229E-05
3	3.0076E-04	-2.9926E-03	1.2541E-04	5.1978E-07	4.7811E-06	3.9229E-05
4	2.8809E-04	-2.9912E-03	1.2541E-04	5.1978E-07	4.7811E-06	3.9229E-05
5	2.7542E-04	-2.9898E-03	1.2541E-04	5.1978E-07	4.7811E-06	3.9229E-05

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandatario

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 134 di 260
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6	2.6275E-04	-2.9884E-03	1.2541E-04	5.1978E-07	4.7811E-06	3.9229E-05
7	2.4975E-04	-2.9870E-03	1.2541E-04	5.1978E-07	4.7811E-06	3.9229E-05
8	8.8741E-04	-2.9953E-03	1.1797E-04	5.1978E-07	4.7811E-06	3.9229E-05
9	8.7440E-04	-2.9939E-03	1.1797E-04	5.1978E-07	4.7811E-06	3.9229E-05
10	8.6173E-04	-2.9926E-03	1.1797E-04	5.1978E-07	4.7811E-06	3.9229E-05
11	8.4906E-04	-2.9912E-03	1.1797E-04	5.1978E-07	4.7811E-06	3.9229E-05
12	8.3639E-04	-2.9898E-03	1.1797E-04	5.1978E-07	4.7811E-06	3.9229E-05
13	8.2372E-04	-2.9884E-03	1.1797E-04	5.1978E-07	4.7811E-06	3.9229E-05
14	8.1072E-04	-2.9870E-03	1.1797E-04	5.1978E-07	4.7811E-06	3.9229E-05
15	3.1883E-04	-2.9866E-03	1.2444E-04	5.1978E-07	4.7811E-06	3.9229E-05
16	4.2279E-04	-2.9866E-03	1.2307E-04	5.1978E-07	4.7811E-06	3.9229E-05
17	5.2674E-04	-2.9866E-03	1.2169E-04	5.1978E-07	4.7811E-06	3.9229E-05
18	6.3070E-04	-2.9866E-03	1.2031E-04	5.1978E-07	4.7811E-06	3.9229E-05
19	7.3465E-04	-2.9866E-03	1.1893E-04	5.1978E-07	4.7811E-06	3.9229E-05
20	4.0250E-04	-2.9957E-03	1.2444E-04	5.1978E-07	4.7811E-06	3.9229E-05
21	5.0646E-04	-2.9957E-03	1.2307E-04	5.1978E-07	4.7811E-06	3.9229E-05
22	6.1041E-04	-2.9957E-03	1.2169E-04	5.1978E-07	4.7811E-06	3.9229E-05
23	7.1437E-04	-2.9957E-03	1.2031E-04	5.1978E-07	4.7811E-06	3.9229E-05
24	8.1832E-04	-2.9957E-03	1.1893E-04	5.1978E-07	4.7811E-06	3.9229E-05
25	3.4800E-04	-2.4406E-03	5.7508E-05	5.1978E-07	4.7811E-06	3.9229E-05
26	4.5195E-04	-2.4406E-03	5.6130E-05	5.1978E-07	4.7811E-06	3.9229E-05
27	5.5591E-04	-2.4406E-03	5.4753E-05	5.1978E-07	4.7811E-06	3.9229E-05
28	6.5986E-04	-2.4406E-03	5.3376E-05	5.1978E-07	4.7811E-06	3.9229E-05
29	7.6382E-04	-2.4406E-03	5.1998E-05	5.1978E-07	4.7811E-06	3.9229E-05
30	3.7334E-04	-2.4434E-03	5.7508E-05	5.1978E-07	4.7811E-06	3.9229E-05
31	4.7729E-04	-2.4434E-03	5.6130E-05	5.1978E-07	4.7811E-06	3.9229E-05
32	5.8125E-04	-2.4434E-03	5.4753E-05	5.1978E-07	4.7811E-06	3.9229E-05
33	6.8520E-04	-2.4434E-03	5.3376E-05	5.1978E-07	4.7811E-06	3.9229E-05
34	7.8916E-04	-2.4434E-03	5.1998E-05	5.1978E-07	4.7811E-06	3.9229E-05
MINIMUM	2.4975E-04	-2.9957E-03	5.1998E-05	5.1978E-07	4.7811E-06	3.9229E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	8.8741E-04	-2.4406E-03	1.2541E-04	5.1978E-07	4.7811E-06	3.9229E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
1	958.36	-779.59	59.302	0.4223	-238.40	-2614.0
2	920.18	-779.33	59.312	0.4223	-238.43	-2613.0
3	882.98	-779.07	59.321	0.4223	-238.46	-2611.9
4	845.79	-778.82	59.330	0.4223	-238.48	-2610.9
5	808.59	-778.57	59.340	0.4223	-238.51	-2609.8
6	771.39	-778.31	59.349	0.4223	-238.54	-2608.8
7	733.21	-778.05	59.359	0.4223	-238.56	-2607.7
8	2605.3	-779.11	55.068	0.4223	-219.44	-2614.3
9	2567.1	-778.85	55.077	0.4223	-219.47	-2613.2
10	2529.9	-778.59	55.085	0.4223	-219.50	-2612.1
11	2492.7	-778.34	55.094	0.4223	-219.52	-2611.1
12	2455.5	-778.09	55.103	0.4223	-219.55	-2610.1
13	2418.3	-777.83	55.112	0.4223	-219.57	-2609.0
14	2380.1	-777.57	55.121	0.4223	-219.60	-2607.9
15	936.03	-1355.2	26.995	0.4223	-85.190	-6001.6
16	1241.2	-1355.1	26.646	0.4223	-83.995	-6001.6
17	1546.4	-1355.1	26.298	0.4223	-82.801	-6001.6
18	1851.6	-1355.0	25.949	0.4223	-81.606	-6001.6
19	2156.8	-1354.9	25.601	0.4223	-80.412	-6001.6
20	1181.7	-1358.2	26.965	0.4223	-85.130	-6017.5
21	1486.9	-1358.1	26.617	0.4223	-83.936	-6017.6
22	1792.1	-1358.0	26.269	0.4223	-82.742	-6017.6
23	2097.2	-1358.0	25.920	0.4223	-81.548	-6017.6
24	2402.4	-1357.9	25.572	0.4223	-80.355	-6017.6
25	1374.9	-1943.3	16.333	0.2781	-39.571	-7544.8
26	1785.7	-1943.1	15.807	0.2781	-37.983	-7544.8
27	2196.4	-1943.0	15.281	0.2781	-36.394	-7544.8
28	2607.1	-1942.9	14.755	0.2781	-34.806	-7544.7
29	3017.9	-1942.8	14.229	0.2781	-33.217	-7544.7
30	1475.1	-1945.1	16.327	0.2781	-39.562	-7553.1
31	1885.8	-1945.0	15.801	0.2781	-37.974	-7553.1
32	2296.5	-1944.9	15.275	0.2781	-36.385	-7553.1
33	2707.2	-1944.8	14.749	0.2781	-34.797	-7553.0
34	3118.0	-1944.7	14.223	0.2781	-33.209	-7553.0
MINIMUM	733.21	-1945.1	14.223	0.2781	-238.56	-7553.1
Pile N.	7	30	34	25	7	30
MAXIMUM	3118.0	-777.57	59.359	0.4223	-33.209	-2607.7
Pile N.	34	14	7	1	34	7

PILE GROUP	STRESS, KN/ M**2
1	7416.7
2	7401.1
3	7385.8
4	7370.6
5	7355.4
6	7340.2
7	7324.5

## APPALTATORE:

Consorzio

Soci



## PROGETTAZIONE:

Mandataria

Mandanti



## PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

## ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	135 di 260

8	7966.0
9	7950.4
10	7935.1
11	7919.9
12	7904.7
13	7889.5
14	7873.8
15	4072.5
16	4174.1
17	4275.6
18	4377.2
19	4478.8
20	4164.4
21	4265.9
22	4367.5
23	4469.0
24	4570.6
25	5178.1
26	5314.9
27	5451.7
28	5588.5
29	5725.3
30	5216.7
31	5353.5
32	5490.3
33	5627.1
34	5763.9

MINIMUM	4072.5
Pile N.	15
MAXIMUM	7966.0
Pile N.	8

\* EFFECTS FOR Laterally LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL.		MOMENT		SHEAR		SOIL REACT		TOTAL STRESS	FLEX. RIG.	
	y- DIR	z- DIR	y- DIR	z- DIR	y- DIR	z- DIR	y- DIR	z- DIR		KN- M**2	y- DIR
	M	M	KN- M	KN- M	KN	KN	KN/ M	KN/ M	KN/ M**2	KN- M**2	KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	-2.9954E-03	-2.4687E-06	-919.73	-238.40	-779.64	-18.299	-180.25	-4.1961	319.45	1.1340E+07	4.9219E+07
x (M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
2	-2.9939E-03	-2.4690E-06	-919.37	-238.43	-779.38	-18.302	-180.20	-4.1956	306.73	1.1340E+07	4.9219E+07
x (M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
3	-2.9926E-03	-2.4692E-06	-919.02	-238.46	-779.12	-18.305	-180.15	-4.1952	294.33	1.1340E+07	4.9219E+07
x (M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
4	-2.9912E-03	-2.4694E-06	-918.67	-238.48	-778.87	-18.308	-180.10	-4.1948	281.93	1.1340E+07	4.9219E+07
x (M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
5	-2.9898E-03	-2.4697E-06	-918.32	-238.51	-778.61	-18.311	-180.05	-4.1943	269.53	1.1340E+07	4.9219E+07
x (M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
6	-2.9884E-03	-2.4699E-06	-917.97	-238.54	-778.36	-18.314	-180.00	-4.1939	257.13	1.1340E+07	4.9219E+07
x (M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
7	-2.9870E-03	-2.4702E-06	-917.61	-238.56	-778.09	-18.318	-180.00	-4.1935	244.40	1.1340E+07	4.9219E+07
x (M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
8	-2.9954E-03	-2.3288E-06	-920.26	-219.44	-779.26	-17.180	-180.24	-3.9287	868.42	1.1340E+07	4.9219E+07
x (M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
9	-2.9939E-03	-2.3291E-06	-919.90	-219.47	-779.00	-17.183	-180.19	-3.9283	855.69	1.1340E+07	4.9219E+07
x (M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
10	-2.9926E-03	-2.3293E-06	-919.55	-219.50	-778.74	-17.186	-180.14	-3.9279	843.29	1.1340E+07	4.9219E+07
x (M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
11	-2.9912E-03	-2.3295E-06	-919.20	-219.52	-778.49	-17.189	-180.09	-3.9275	830.89	1.1340E+07	4.9219E+07
x (M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
12	-2.9898E-03	-2.3297E-06	-918.85	-219.55	-778.23	-17.192	-180.04	-3.9271	818.50	1.1340E+07	4.9219E+07
x (M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
13	-2.9884E-03	-2.3300E-06	-918.49	-219.57	-777.97	-17.195	-179.99	-3.9267	806.10	1.1340E+07	4.9219E+07
x (M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
14	-2.9870E-03	-2.3302E-06	-918.13	-219.60	-777.71	-17.198	-179.94	-3.9263	793.37	1.1340E+07	4.9219E+07
x (M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
15	-2.9866E-03	-1.6128E-06	-2002.4	-85.190	-1355.2	-6.0657	-223.56	-2.8453	312.01	4.9219E+07	1.1340E+07
x (M)	0.0000	13.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
16	-2.9866E-03	-1.5954E-06	-2002.5	-83.995	-1355.2	-5.9968	-223.56	-2.8131	413.74	4.9219E+07	1.1340E+07
x (M)	0.0000	13.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
17	-2.9866E-03	-1.5780E-06	-2002.6	-82.801	-1355.1	-5.9279	-223.56	-2.7808	515.47	4.9219E+07	1.1340E+07
x (M)	0.0000	13.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
18	-2.9866E-03	-1.5605E-06	-2002.7	-81.606	-1355.0	-5.8590	-223.56	-2.7485	617.20	4.9219E+07	1.1340E+07
x (M)	0.0000	13.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
19	-2.9866E-03	-1.5431E-06	-2002.7	-80.412	-1355.0	-5.7901	-223.56	-2.7162	718.93	4.9219E+07	1.1340E+07
x (M)	0.0000	13.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
20	-2.9957E-03	-1.6133E-06	-2007.3	-85.130	-1358.2	-6.0603	-223.95	-2.8476	393.89	4.9219E+07	1.1340E+07
x (M)	0.0000	13.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
21	-2.9957E-03	-1.5959E-06	-2007.4	-83.936	-1358.2	-5.9915	-223.95	-2.8153	495.62	4.9219E+07	1.1340E+07
x (M)	0.0000	13.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
22	-2.9957E-03	-1.5785E-06	-2007.4	-82.742	-1358.1	-5.9227	-223.95	-2.7830	597.35	4.9219E+07	1.1340E+07
x (M)	0.0000	13.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
23	-2.9957E-03	-1.5611E-06	-2007.5	-81.548	-1358.0	-5.8539	-223.95	-2.7507	699.08	4.9219E+07	1.1340E+07
x (M)	0.0000	13.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
24	-2.9957E-03	-1.5436E-06	-2007.6	-80.355	-1358.0	-5.7850	-223.95	-2.7184	800.81	4.9219E+07	1.1340E+07





APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandataria

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF1N 01 E ZZ RG MD0000 001 B 137 di 260

x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
30	4.0437E-05	5.7508E-05	7553.1	22.413	961.93	16.328	262.41	9.5767	5216.7	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
31	4.0439E-05	5.6130E-05	7553.1	21.772	961.97	15.802	262.42	9.2603	5353.5	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
32	4.0441E-05	5.4753E-05	7553.1	21.131	962.01	15.276	262.43	8.9439	5490.3	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
33	4.0443E-05	5.3376E-05	7553.0	20.490	962.05	14.751	262.44	8.6276	5627.1	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
34	4.0445E-05	5.1998E-05	7553.0	19.849	962.09	14.225	262.45	8.3114	5763.9	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
Max.	6.0587E-05	1.2540E-04	7553.1	108.77	962.09	59.360	262.45	14.672	7966.0	4.9219E+07	4.9219E+07
Pile N.	8	1	30	7	34	7	34	7	8	15	1

LOAD CASE : 2  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
62421.1	-49592.3	1216.58
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
410.415	11119.4	-2.93905E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
5.67622E-04	-3.75813E-03	1.27876E-04
ANGLE ROT. X, RAD	ANGLE ROT. Y, RAD	ANGLE ROT. Z, RAD
4.87543E-07	4.85188E-06	6.52024E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
*****	*****	*****	*****	*****	*****	*****
1	1.4034E-04	-3.7620E-03	1.3136E-04	4.8754E-07	4.8519E-06	6.5202E-05
2	1.2714E-04	-3.7607E-03	1.3136E-04	4.8754E-07	4.8519E-06	6.5202E-05
3	1.1428E-04	-3.7594E-03	1.3136E-04	4.8754E-07	4.8519E-06	6.5202E-05
4	1.0142E-04	-3.7581E-03	1.3136E-04	4.8754E-07	4.8519E-06	6.5202E-05
5	8.8567E-05	-3.7568E-03	1.3136E-04	4.8754E-07	4.8519E-06	6.5202E-05
6	7.5710E-05	-3.7555E-03	1.3136E-04	4.8754E-07	4.8519E-06	6.5202E-05
7	6.2513E-05	-3.7542E-03	1.3136E-04	4.8754E-07	4.8519E-06	6.5202E-05
8	1.0727E-03	-3.7620E-03	1.2439E-04	4.8754E-07	4.8519E-06	6.5202E-05
9	1.0595E-03	-3.7607E-03	1.2439E-04	4.8754E-07	4.8519E-06	6.5202E-05
10	1.0467E-03	-3.7594E-03	1.2439E-04	4.8754E-07	4.8519E-06	6.5202E-05
11	1.0338E-03	-3.7581E-03	1.2439E-04	4.8754E-07	4.8519E-06	6.5202E-05
12	1.0210E-03	-3.7568E-03	1.2439E-04	4.8754E-07	4.8519E-06	6.5202E-05
13	1.0081E-03	-3.7555E-03	1.2439E-04	4.8754E-07	4.8519E-06	6.5202E-05
14	9.9491E-04	-3.7542E-03	1.2439E-04	4.8754E-07	4.8519E-06	6.5202E-05
15	1.7960E-04	-3.7539E-03	1.3046E-04	4.8754E-07	4.8519E-06	6.5202E-05
16	3.5238E-04	-3.7539E-03	1.2917E-04	4.8754E-07	4.8519E-06	6.5202E-05
17	5.2517E-04	-3.7539E-03	1.2788E-04	4.8754E-07	4.8519E-06	6.5202E-05
18	6.9795E-04	-3.7539E-03	1.2658E-04	4.8754E-07	4.8519E-06	6.5202E-05
19	8.7074E-04	-3.7539E-03	1.2529E-04	4.8754E-07	4.8519E-06	6.5202E-05
20	2.6450E-04	-3.7624E-03	1.3046E-04	4.8754E-07	4.8519E-06	6.5202E-05
21	4.3729E-04	-3.7624E-03	1.2917E-04	4.8754E-07	4.8519E-06	6.5202E-05
22	6.1008E-04	-3.7624E-03	1.2788E-04	4.8754E-07	4.8519E-06	6.5202E-05
23	7.8286E-04	-3.7624E-03	1.2658E-04	4.8754E-07	4.8519E-06	6.5202E-05
24	9.5565E-04	-3.7624E-03	1.2529E-04	4.8754E-07	4.8519E-06	6.5202E-05
25	2.0919E-04	-2.8440E-03	6.2534E-05	4.8754E-07	4.8519E-06	6.5202E-05
26	3.8198E-04	-2.8440E-03	6.1242E-05	4.8754E-07	4.8519E-06	6.5202E-05
27	5.5477E-04	-2.8440E-03	5.9950E-05	4.8754E-07	4.8519E-06	6.5202E-05
28	7.2755E-04	-2.8440E-03	5.8658E-05	4.8754E-07	4.8519E-06	6.5202E-05
29	9.0034E-04	-2.8440E-03	5.7366E-05	4.8754E-07	4.8519E-06	6.5202E-05
30	2.3491E-04	-2.8466E-03	6.2534E-05	4.8754E-07	4.8519E-06	6.5202E-05
31	4.0769E-04	-2.8466E-03	6.1242E-05	4.8754E-07	4.8519E-06	6.5202E-05
32	5.8048E-04	-2.8466E-03	5.9950E-05	4.8754E-07	4.8519E-06	6.5202E-05
33	7.5327E-04	-2.8466E-03	5.8658E-05	4.8754E-07	4.8519E-06	6.5202E-05
34	9.2605E-04	-2.8466E-03	5.7366E-05	4.8754E-07	4.8519E-06	6.5202E-05

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTAZIONE:

Mandatario

Mandanti



PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 138 di 260
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MINIMUM Pile N.	6.2513E-05 7	-3.7624E-03 20	5.7366E-05 29	4.8754E-07 1	4.8519E-06 1	6.5202E-05 1
MAXIMUM Pile N.	1.0727E-03 8	-2.8440E-03 25	1.3136E-04 1	4.8754E-07 1	4.8519E-06 1	6.5202E-05 1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	412.00	-903.74	58.450	0.3961	-240.40	-3065.3
2	373.26	-903.51	58.457	0.3961	-240.42	-3064.3
3	335.51	-903.29	58.464	0.3961	-240.44	-3063.4
4	297.76	-903.07	58.470	0.3961	-240.46	-3062.4
5	260.02	-902.85	58.477	0.3961	-240.48	-3061.5
6	222.27	-902.64	58.484	0.3961	-240.50	-3060.6
7	183.53	-902.41	58.491	0.3961	-240.52	-3059.6
8	3149.3	-902.67	54.701	0.3961	-223.32	-3065.4
9	3110.6	-902.44	54.708	0.3961	-223.34	-3064.5
10	3072.8	-902.22	54.714	0.3961	-223.36	-3063.5
11	3035.1	-902.01	54.721	0.3961	-223.38	-3062.6
12	2997.3	-901.79	54.727	0.3961	-223.40	-3061.6
13	2959.6	-901.57	54.734	0.3961	-223.42	-3060.7
14	2920.9	-901.34	54.741	0.3961	-223.43	-3059.7
15	527.26	-1559.2	26.580	0.3961	-85.815	-6954.4
16	1034.5	-1559.0	26.271	0.3961	-84.742	-6954.4
17	1541.8	-1558.9	25.961	0.3961	-83.669	-6954.4
18	2049.1	-1558.7	25.651	0.3961	-82.596	-6954.5
19	2556.3	-1558.6	25.341	0.3961	-81.523	-6954.5
20	776.53	-1561.8	26.557	0.3961	-85.769	-6968.8
21	1283.8	-1561.6	26.248	0.3961	-84.697	-6968.8
22	1791.1	-1561.5	25.938	0.3961	-83.624	-6968.8
23	2298.3	-1561.3	25.629	0.3961	-82.552	-6968.9
24	2805.6	-1561.2	25.319	0.3961	-81.480	-6968.9
25	826.52	-2135.1	17.435	0.2608	-43.732	-8247.7
26	1509.2	-2134.9	16.956	0.2608	-42.273	-8247.7
27	2191.9	-2134.7	16.477	0.2608	-40.814	-8247.6
28	2874.6	-2134.5	15.999	0.2608	-39.355	-8247.6
29	3557.2	-2134.2	15.521	0.2608	-37.896	-8247.5
30	928.12	-2136.8	17.429	0.2608	-43.723	-8255.3
31	1610.8	-2136.5	16.950	0.2608	-42.265	-8255.3
32	2293.5	-2136.3	16.472	0.2608	-40.806	-8255.2
33	2976.2	-2136.1	15.994	0.2608	-39.347	-8255.2
34	3658.8	-2135.9	15.516	0.2608	-37.889	-8255.1
MINIMUM Pile N.	183.53 7	-2136.8 30	15.516 34	0.2608 25	-240.52 7	-8255.3 30
MAXIMUM Pile N.	3658.8 34	-901.34 14	58.491 7	0.3961 1	-37.889 34	-3059.6 7

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
1	1.4034E-04	-3.7620E-03	1.3136E-04	4.8754E-07	4.8519E-06	6.5202E-05
2	1.2714E-04	-3.7607E-03	1.3136E-04	4.8754E-07	4.8519E-06	6.5202E-05
3	1.1428E-04	-3.7594E-03	1.3136E-04	4.8754E-07	4.8519E-06	6.5202E-05
4	1.0142E-04	-3.7581E-03	1.3136E-04	4.8754E-07	4.8519E-06	6.5202E-05
5	8.8567E-05	-3.7568E-03	1.3136E-04	4.8754E-07	4.8519E-06	6.5202E-05
6	7.5710E-05	-3.7555E-03	1.3136E-04	4.8754E-07	4.8519E-06	6.5202E-05
7	6.2513E-05	-3.7542E-03	1.3136E-04	4.8754E-07	4.8519E-06	6.5202E-05
8	1.0727E-03	-3.7620E-03	1.2439E-04	4.8754E-07	4.8519E-06	6.5202E-05
9	1.0595E-03	-3.7607E-03	1.2439E-04	4.8754E-07	4.8519E-06	6.5202E-05
10	1.0467E-03	-3.7594E-03	1.2439E-04	4.8754E-07	4.8519E-06	6.5202E-05
11	1.0338E-03	-3.7581E-03	1.2439E-04	4.8754E-07	4.8519E-06	6.5202E-05
12	1.0210E-03	-3.7568E-03	1.2439E-04	4.8754E-07	4.8519E-06	6.5202E-05
13	1.0081E-03	-3.7555E-03	1.2439E-04	4.8754E-07	4.8519E-06	6.5202E-05
14	9.9491E-04	-3.7542E-03	1.2439E-04	4.8754E-07	4.8519E-06	6.5202E-05
15	1.7960E-04	-3.7539E-03	1.3046E-04	4.8754E-07	4.8519E-06	6.5202E-05
16	3.5238E-04	-3.7539E-03	1.2917E-04	4.8754E-07	4.8519E-06	6.5202E-05
17	5.2517E-04	-3.7539E-03	1.2788E-04	4.8754E-07	4.8519E-06	6.5202E-05
18	6.9795E-04	-3.7539E-03	1.2658E-04	4.8754E-07	4.8519E-06	6.5202E-05
19	8.7074E-04	-3.7539E-03	1.2529E-04	4.8754E-07	4.8519E-06	6.5202E-05
20	2.6450E-04	-3.7624E-03	1.3046E-04	4.8754E-07	4.8519E-06	6.5202E-05
21	4.3729E-04	-3.7624E-03	1.2917E-04	4.8754E-07	4.8519E-06	6.5202E-05
22	6.1008E-04	-3.7624E-03	1.2788E-04	4.8754E-07	4.8519E-06	6.5202E-05
23	7.8286E-04	-3.7624E-03	1.2658E-04	4.8754E-07	4.8519E-06	6.5202E-05
24	9.5565E-04	-3.7624E-03	1.2529E-04	4.8754E-07	4.8519E-06	6.5202E-05
25	2.0919E-04	-2.8440E-03	6.2534E-05	4.8754E-07	4.8519E-06	6.5202E-05
26	3.8198E-04	-2.8440E-03	6.1242E-05	4.8754E-07	4.8519E-06	6.5202E-05
27	5.5477E-04	-2.8440E-03	5.9950E-05	4.8754E-07	4.8519E-06	6.5202E-05
28	7.2755E-04	-2.8440E-03	5.8658E-05	4.8754E-07	4.8519E-06	6.5202E-05
29	9.0034E-04	-2.8440E-03	5.7366E-05	4.8754E-07	4.8519E-06	6.5202E-05
30	2.3491E-04	-2.8466E-03	6.2534E-05	4.8754E-07	4.8519E-06	6.5202E-05
31	4.0769E-04	-2.8466E-03	6.1242E-05	4.8754E-07	4.8519E-06	6.5202E-05

<b>APPALTATORE:</b> Consorzio <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>	CODIFICA <b>RG</b>	DOCUMENTO <b>MD0000 001</b>	REV. <b>B</b>	FOGLIO <b>139 di 260</b>

32	5.8048E-04	-2.8466E-03	5.9950E-05	4.8754E-07	4.8519E-06	6.5202E-05
33	7.5327E-04	-2.8466E-03	5.8658E-05	4.8754E-07	4.8519E-06	6.5202E-05
34	9.2605E-04	-2.8466E-03	5.7366E-05	4.8754E-07	4.8519E-06	6.5202E-05
MINIMUM	6.2513E-05	-3.7624E-03	5.7366E-05	4.8754E-07	4.8519E-06	6.5202E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.0727E-03	-2.8440E-03	1.3136E-04	4.8754E-07	4.8519E-06	6.5202E-05
Pile N.	8	25	1	1	1	1





\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
1	412.00	-903.74	58.450	0.3961	-240.40	-3065.3
2	373.26	-903.51	58.457	0.3961	-240.42	-3064.3
3	335.51	-903.29	58.464	0.3961	-240.44	-3063.4
4	297.76	-903.07	58.470	0.3961	-240.46	-3062.4
5	260.02	-902.85	58.477	0.3961	-240.48	-3061.5
6	222.27	-902.64	58.484	0.3961	-240.50	-3060.6
7	183.53	-902.41	58.491	0.3961	-240.52	-3059.6
8	3149.3	-902.67	54.701	0.3961	-223.32	-3065.4
9	3110.6	-902.44	54.708	0.3961	-223.34	-3064.5
10	3072.8	-902.22	54.714	0.3961	-223.36	-3063.5
11	3035.1	-902.01	54.721	0.3961	-223.38	-3062.6
12	2997.3	-901.79	54.727	0.3961	-223.40	-3061.6
13	2959.6	-901.57	54.734	0.3961	-223.42	-3060.7
14	2920.9	-901.34	54.741	0.3961	-223.43	-3059.7
15	527.26	-1559.2	26.580	0.3961	-85.815	-6954.4
16	1034.5	-1559.0	26.271	0.3961	-84.742	-6954.4
17	1541.8	-1558.9	25.961	0.3961	-83.669	-6954.4
18	2049.1	-1558.7	25.651	0.3961	-82.596	-6954.5
19	2556.3	-1558.6	25.341	0.3961	-81.523	-6954.5
20	776.53	-1561.8	26.557	0.3961	-85.769	-6968.8
21	1283.8	-1561.6	26.248	0.3961	-84.697	-6968.8
22	1791.1	-1561.5	25.938	0.3961	-83.624	-6968.8
23	2298.3	-1561.3	25.629	0.3961	-82.552	-6968.9
24	2805.6	-1561.2	25.319	0.3961	-81.480	-6968.9
25	826.52	-2135.1	17.435	0.2608	-43.732	-8247.7
26	1509.2	-2134.9	16.956	0.2608	-42.273	-8247.7
27	2191.9	-2134.7	16.477	0.2608	-40.814	-8247.6
28	2874.6	-2134.5	15.999	0.2608	-39.355	-8247.6
29	3557.2	-2134.2	15.521	0.2608	-37.896	-8247.5
30	928.12	-2136.8	17.429	0.2608	-43.723	-8255.3
31	1610.8	-2136.5	16.950	0.2608	-42.265	-8255.3
32	2293.5	-2136.3	16.472	0.2608	-40.806	-8255.2
33	2976.2	-2136.1	15.994	0.2608	-39.347	-8255.2
34	3658.8	-2135.9	15.516	0.2608	-37.889	-8255.1
MINIMUM	183.53	-2136.8	15.516	0.2608	-240.52	-8255.3
Pile N.	7	30	34	25	7	30
MAXIMUM	3658.8	-901.34	58.491	0.3961	-37.889	-3059.6
Pile N.	34	14	7	1	34	7

PILE GROUP	STRESS, KN/ M**2
1	8459.2
2	8443.7
3	8428.5
4	8413.4
5	8398.3
6	8383.2
7	8367.6
8	9371.9
9	9356.3
10	9341.2
11	9326.1
12	9311.0
13	9295.8
14	9280.3
15	4531.3
16	4700.3
17	4869.2
18	5038.2
19	5207.1
20	4623.4
21	4792.3
22	4961.3
23	5130.3
24	5299.2
25	5435.1
26	5662.5
27	5889.9
28	6117.4
29	6344.8
30	5473.7
31	5701.1
32	5928.6
33	6156.0





<b>APPALTATORE:</b> Consorzio  Soci  	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  	
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN 58405.2	HOR. LOAD Y, KN -48785.2	HOR. LOAD Z, KN 1066.74
MOMENT X, KN- M 505.178	MOMENT Y, KN- M 6644.68	MOMENT Z, KN- M -3.02856E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M 5.31104E-04	HORIZONTAL Y, M -3.63197E-03	HORIZONTAL Z, M 1.05618E-04
ANGLE ROT. X,RAD 5.92238E-07	ANGLE ROT. Y,RAD 3.51408E-06	ANGLE ROT. Z,RAD 6.02373E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
*****	*****	*****	*****	*****	*****	*****
1	1.2859E-04	-3.6367E-03	1.0985E-04	5.9224E-07	3.5141E-06	6.0237E-05
2	1.1903E-04	-3.6351E-03	1.0985E-04	5.9224E-07	3.5141E-06	6.0237E-05
3	1.0972E-04	-3.6335E-03	1.0985E-04	5.9224E-07	3.5141E-06	6.0237E-05
4	1.0041E-04	-3.6320E-03	1.0985E-04	5.9224E-07	3.5141E-06	6.0237E-05
5	9.1095E-05	-3.6304E-03	1.0985E-04	5.9224E-07	3.5141E-06	6.0237E-05
6	8.1783E-05	-3.6288E-03	1.0985E-04	5.9224E-07	3.5141E-06	6.0237E-05
7	7.2224E-05	-3.6272E-03	1.0985E-04	5.9224E-07	3.5141E-06	6.0237E-05
8	9.8998E-04	-3.6367E-03	1.0138E-04	5.9224E-07	3.5141E-06	6.0237E-05
9	9.8043E-04	-3.6351E-03	1.0138E-04	5.9224E-07	3.5141E-06	6.0237E-05
10	9.7111E-04	-3.6335E-03	1.0138E-04	5.9224E-07	3.5141E-06	6.0237E-05
11	9.6180E-04	-3.6320E-03	1.0138E-04	5.9224E-07	3.5141E-06	6.0237E-05
12	9.5249E-04	-3.6304E-03	1.0138E-04	5.9224E-07	3.5141E-06	6.0237E-05
13	9.4318E-04	-3.6288E-03	1.0138E-04	5.9224E-07	3.5141E-06	6.0237E-05
14	9.3362E-04	-3.6272E-03	1.0138E-04	5.9224E-07	3.5141E-06	6.0237E-05
15	1.8110E-04	-3.6268E-03	1.0876E-04	5.9224E-07	3.5141E-06	6.0237E-05
16	3.4073E-04	-3.6268E-03	1.0719E-04	5.9224E-07	3.5141E-06	6.0237E-05
17	5.0036E-04	-3.6268E-03	1.0562E-04	5.9224E-07	3.5141E-06	6.0237E-05
18	6.5998E-04	-3.6268E-03	1.0405E-04	5.9224E-07	3.5141E-06	6.0237E-05
19	8.1961E-04	-3.6268E-03	1.0248E-04	5.9224E-07	3.5141E-06	6.0237E-05
20	2.4259E-04	-3.6372E-03	1.0876E-04	5.9224E-07	3.5141E-06	6.0237E-05
21	4.0222E-04	-3.6372E-03	1.0719E-04	5.9224E-07	3.5141E-06	6.0237E-05
22	5.6185E-04	-3.6372E-03	1.0562E-04	5.9224E-07	3.5141E-06	6.0237E-05
23	7.2148E-04	-3.6372E-03	1.0405E-04	5.9224E-07	3.5141E-06	6.0237E-05
24	8.8111E-04	-3.6372E-03	1.0248E-04	5.9224E-07	3.5141E-06	6.0237E-05
25	2.0253E-04	-2.7871E-03	5.9559E-05	5.9224E-07	3.5141E-06	6.0237E-05
26	3.6216E-04	-2.7871E-03	5.7990E-05	5.9224E-07	3.5141E-06	6.0237E-05
27	5.2179E-04	-2.7871E-03	5.6420E-05	5.9224E-07	3.5141E-06	6.0237E-05
28	6.8142E-04	-2.7871E-03	5.4851E-05	5.9224E-07	3.5141E-06	6.0237E-05
29	8.4105E-04	-2.7871E-03	5.3282E-05	5.9224E-07	3.5141E-06	6.0237E-05
30	2.2116E-04	-2.7902E-03	5.9559E-05	5.9224E-07	3.5141E-06	6.0237E-05
31	3.8079E-04	-2.7902E-03	5.7990E-05	5.9224E-07	3.5141E-06	6.0237E-05
32	5.4042E-04	-2.7902E-03	5.6420E-05	5.9224E-07	3.5141E-06	6.0237E-05
33	7.0005E-04	-2.7902E-03	5.4851E-05	5.9224E-07	3.5141E-06	6.0237E-05
34	8.5967E-04	-2.7902E-03	5.3282E-05	5.9224E-07	3.5141E-06	6.0237E-05
MINIMUM	7.2224E-05	-3.6372E-03	5.3282E-05	5.9224E-07	3.5141E-06	6.0237E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.8998E-04	-2.7871E-03	1.0985E-04	5.9224E-07	3.5141E-06	6.0237E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	377.52	-884.66	50.725	0.4811	-211.85	-2996.4
2	349.45	-884.38	50.732	0.4811	-211.87	-2995.3
3	322.12	-884.10	50.740	0.4811	-211.89	-2994.1
4	294.78	-883.83	50.747	0.4811	-211.91	-2993.0
5	267.44	-883.55	50.754	0.4811	-211.94	-2991.8
6	240.10	-883.27	50.762	0.4811	-211.96	-2990.7
7	212.04	-882.99	50.769	0.4811	-211.98	-2989.5
8	2906.4	-883.72	46.136	0.4811	-190.94	-2996.6
9	2878.3	-883.43	46.143	0.4811	-190.97	-2995.4
10	2851.0	-883.16	46.150	0.4811	-190.98	-2994.3
11	2823.7	-882.88	46.157	0.4811	-191.00	-2993.1
12	2796.3	-882.61	46.163	0.4811	-191.02	-2992.0
13	2769.0	-882.33	46.170	0.4811	-191.04	-2990.8
14	2740.9	-882.05	46.177	0.4811	-191.06	-2989.7
15	531.67	-1527.5	22.828	0.4811	-74.544	-6809.2
16	1000.3	-1527.4	22.451	0.4811	-73.232	-6809.2
17	1468.9	-1527.2	22.074	0.4811	-71.919	-6809.2

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandatario

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 143 di 260
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18	1937.6	-1527.1	21.697	0.4811	-70.607	-6809.3
19	2406.2	-1527.0	21.321	0.4811	-69.294	-6809.3
20	712.21	-1530.7	22.805	0.4811	-74.495	-6826.8
21	1180.9	-1530.6	22.428	0.4811	-73.184	-6826.8
22	1649.5	-1530.5	22.052	0.4811	-71.872	-6826.8
23	2118.1	-1530.3	21.675	0.4811	-70.560	-6826.9
24	2586.8	-1530.2	21.299	0.4811	-69.248	-6826.9
25	800.21	-2112.3	17.946	0.3168	-47.950	-8174.8
26	1430.9	-2112.1	17.364	0.3168	-46.172	-8174.7
27	2061.6	-2111.9	16.781	0.3168	-44.395	-8174.7
28	2692.3	-2111.8	16.199	0.3168	-42.617	-8174.7
29	3323.0	-2111.6	15.618	0.3168	-40.839	-8174.6
30	873.80	-2114.4	17.940	0.3168	-47.940	-8184.1
31	1504.5	-2114.2	17.357	0.3168	-46.162	-8184.0
32	2135.2	-2114.0	16.775	0.3168	-44.385	-8184.0
33	2765.9	-2113.8	16.193	0.3168	-42.607	-8183.9
34	3396.6	-2113.6	15.612	0.3168	-40.830	-8183.9
MINIMUM	212.04	-2114.4	15.612	0.3168	-211.98	-8184.1
Pile N.	7	30	34	25	7	30
MAXIMUM	3396.6	-882.05	50.769	0.4811	-40.830	-2989.5
Pile N.	34	14	7	1	34	7


THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
1	1.2859E-04	-3.6367E-03	1.0985E-04	5.9224E-07	3.5141E-06	6.0237E-05
2	1.1903E-04	-3.6351E-03	1.0985E-04	5.9224E-07	3.5141E-06	6.0237E-05
3	1.0972E-04	-3.6335E-03	1.0985E-04	5.9224E-07	3.5141E-06	6.0237E-05
4	1.0041E-04	-3.6320E-03	1.0985E-04	5.9224E-07	3.5141E-06	6.0237E-05
5	9.1095E-05	-3.6304E-03	1.0985E-04	5.9224E-07	3.5141E-06	6.0237E-05
6	8.1783E-05	-3.6288E-03	1.0985E-04	5.9224E-07	3.5141E-06	6.0237E-05
7	7.2224E-05	-3.6272E-03	1.0985E-04	5.9224E-07	3.5141E-06	6.0237E-05
8	9.8998E-04	-3.6367E-03	1.0138E-04	5.9224E-07	3.5141E-06	6.0237E-05
9	9.8043E-04	-3.6351E-03	1.0138E-04	5.9224E-07	3.5141E-06	6.0237E-05
10	9.7111E-04	-3.6335E-03	1.0138E-04	5.9224E-07	3.5141E-06	6.0237E-05
11	9.6180E-04	-3.6320E-03	1.0138E-04	5.9224E-07	3.5141E-06	6.0237E-05
12	9.5249E-04	-3.6304E-03	1.0138E-04	5.9224E-07	3.5141E-06	6.0237E-05
13	9.4318E-04	-3.6288E-03	1.0138E-04	5.9224E-07	3.5141E-06	6.0237E-05
14	9.3362E-04	-3.6272E-03	1.0138E-04	5.9224E-07	3.5141E-06	6.0237E-05
15	1.8110E-04	-3.6268E-03	1.0876E-04	5.9224E-07	3.5141E-06	6.0237E-05
16	3.4073E-04	-3.6268E-03	1.0719E-04	5.9224E-07	3.5141E-06	6.0237E-05
17	5.0036E-04	-3.6268E-03	1.0562E-04	5.9224E-07	3.5141E-06	6.0237E-05
18	6.5998E-04	-3.6268E-03	1.0405E-04	5.9224E-07	3.5141E-06	6.0237E-05
19	8.1961E-04	-3.6268E-03	1.0248E-04	5.9224E-07	3.5141E-06	6.0237E-05
20	2.4259E-04	-3.6372E-03	1.0876E-04	5.9224E-07	3.5141E-06	6.0237E-05
21	4.0222E-04	-3.6372E-03	1.0719E-04	5.9224E-07	3.5141E-06	6.0237E-05
22	5.6185E-04	-3.6372E-03	1.0562E-04	5.9224E-07	3.5141E-06	6.0237E-05
23	7.2148E-04	-3.6372E-03	1.0405E-04	5.9224E-07	3.5141E-06	6.0237E-05
24	8.8111E-04	-3.6372E-03	1.0248E-04	5.9224E-07	3.5141E-06	6.0237E-05
25	2.0253E-04	-2.7871E-03	5.9559E-05	5.9224E-07	3.5141E-06	6.0237E-05
26	3.6216E-04	-2.7871E-03	5.7990E-05	5.9224E-07	3.5141E-06	6.0237E-05
27	5.2179E-04	-2.7871E-03	5.6420E-05	5.9224E-07	3.5141E-06	6.0237E-05
28	6.8142E-04	-2.7871E-03	5.4851E-05	5.9224E-07	3.5141E-06	6.0237E-05
29	8.4105E-04	-2.7871E-03	5.3282E-05	5.9224E-07	3.5141E-06	6.0237E-05
30	2.2116E-04	-2.7902E-03	5.9559E-05	5.9224E-07	3.5141E-06	6.0237E-05
31	3.8079E-04	-2.7902E-03	5.7990E-05	5.9224E-07	3.5141E-06	6.0237E-05
32	5.4042E-04	-2.7902E-03	5.6420E-05	5.9224E-07	3.5141E-06	6.0237E-05
33	7.0005E-04	-2.7902E-03	5.4851E-05	5.9224E-07	3.5141E-06	6.0237E-05
34	8.5967E-04	-2.7902E-03	5.3282E-05	5.9224E-07	3.5141E-06	6.0237E-05
MINIMUM	7.2224E-05	-3.6372E-03	5.3282E-05	5.9224E-07	3.5141E-06	6.0237E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.8998E-04	-2.7871E-03	1.0985E-04	5.9224E-07	3.5141E-06	6.0237E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	377.52	-884.66	50.725	0.4811	-211.85	-2996.4
2	349.45	-884.38	50.732	0.4811	-211.87	-2995.3
3	322.12	-884.10	50.740	0.4811	-211.89	-2994.1
4	294.78	-883.83	50.747	0.4811	-211.91	-2993.0
5	267.44	-883.55	50.754	0.4811	-211.94	-2991.8
6	240.10	-883.27	50.762	0.4811	-211.96	-2990.7
7	212.04	-882.99	50.769	0.4811	-211.98	-2989.5
8	2906.4	-883.72	46.136	0.4811	-190.94	-2996.6
9	2878.3	-883.43	46.143	0.4811	-190.97	-2995.4
10	2851.0	-883.16	46.150	0.4811	-190.98	-2994.3
11	2823.7	-882.88	46.157	0.4811	-191.00	-2993.1
12	2796.3	-882.61	46.163	0.4811	-191.02	-2992.0
13	2769.0	-882.33	46.170	0.4811	-191.04	-2990.8

<b>APPALTATORE:</b> Consorzio <b>Soci</b> 	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b> 					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
<b>COMMESSA</b> IF1N	<b>LOTTO</b> 01 E ZZ	<b>CODIFICA</b> RG	<b>DOCUMENTO</b> MD0000 001	<b>REV.</b> B	<b>FOGLIO</b> 144 di 260

14	2740.9	-882.05	46.177	0.4811	-191.06	-2989.7
15	531.67	-1527.5	22.828	0.4811	-74.544	-6809.2
16	1000.3	-1527.4	22.451	0.4811	-73.232	-6809.2
17	1468.9	-1527.2	22.074	0.4811	-71.919	-6809.2
18	1937.6	-1527.1	21.697	0.4811	-70.607	-6809.3
19	2406.2	-1527.0	21.321	0.4811	-69.294	-6809.3
20	712.21	-1530.7	22.805	0.4811	-74.495	-6826.8
21	1180.9	-1530.6	22.428	0.4811	-73.184	-6826.8
22	1649.5	-1530.5	22.052	0.4811	-71.872	-6826.8
23	2118.1	-1530.3	21.675	0.4811	-70.560	-6826.9
24	2586.8	-1530.2	21.299	0.4811	-69.248	-6826.9
25	800.21	-2112.3	17.946	0.3168	-47.950	-8174.8
26	1430.9	-2112.1	17.364	0.3168	-46.172	-8174.7
27	2061.6	-2111.9	16.781	0.3168	-44.395	-8174.7
28	2692.3	-2111.8	16.199	0.3168	-42.617	-8174.7
29	3323.0	-2111.6	15.618	0.3168	-40.839	-8174.6
30	873.80	-2114.4	17.940	0.3168	-47.940	-8184.1
31	1504.5	-2114.2	17.357	0.3168	-46.162	-8184.0
32	2135.2	-2114.0	16.775	0.3168	-44.385	-8184.0
33	2765.9	-2113.8	16.193	0.3168	-42.607	-8183.9
34	3396.6	-2113.6	15.612	0.3168	-40.830	-8183.9
MINIMUM	212.04	-2114.4	15.612	0.3168	-211.98	-8184.1
Pile N.	7	30	34	25	7	30
MAXIMUM	3396.6	-882.05	50.769	0.4811	-40.830	-2989.5
Pile N.	34	14	7	1	34	7

PILE GROUP STRESS, KN/ M\*\*2

*****	*****
1	8260.6
2	8248.1
3	8235.8
4	8223.6
5	8211.4
6	8199.2
7	8186.6
8	9103.8
9	9091.3
10	9079.0
11	9066.8
12	9054.6
13	9042.4
14	9029.8
15	4440.5
16	4596.6
17	4752.7
18	4908.7
19	5064.8
20	4511.7
21	4667.8
22	4823.8
23	4979.9
24	5136.0
25	5381.0
26	5591.1
27	5801.1
28	6011.2
29	6221.3
30	5411.3
31	5621.4
32	5831.5
33	6041.6
34	6251.7
MINIMUM	4440.5
Pile N.	15
MAXIMUM	9103.8
Pile N.	8

\* EFFECTS FOR Laterally LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR	DISPL. z-DIR	MOMENT y-DIR	MOMENT z-DIR	SHEAR y-DIR	SHEAR z-DIR	SOIL REACT y-DIR	SOIL REACT z-DIR	TOTAL STRESS	FLEX. RIG. z-DIR	FLEX. RIG. y-DIR
	M	M	KN- M	KN- M	KN	KN	KN/ M	KN/ M	KN/ M**2	KN- M**2	KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	-3.6367E-03	-2.1375E-06	-1071.9	-211.85	-884.69	-15.374	-200.86	-3.4972	125.84	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.5000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
2	-3.6351E-03	-2.1376E-06	-1071.5	-211.87	-884.40	-15.376	-200.80	-3.4967	116.48	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.5000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
3	-3.6335E-03	-2.1377E-06	-1071.2	-211.89	-884.13	-15.378	-200.75	-3.4962	107.37	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.5000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
4	-3.6320E-03	-2.1377E-06	-1070.8	-211.91	-883.85	-15.380	-200.70	-3.4970	98.259	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.5000	0.0000	0.0000	12.500	5.0000	16.500	50.000	0.0000	0.0000
5	-3.6304E-03	-2.1378E-06	-1070.4	-211.94	-883.57	-15.383	-200.64	-3.4987	89.146	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.5000	0.0000	0.0000	12.500	5.0000	16.500	50.000	0.0000	0.0000
6	-3.6288E-03	-2.1379E-06	-1070.0	-211.96	-883.29	-15.385	-200.59	-3.5004	80.033	1.1340E+07	4.9219E+07





APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandatario

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	146 di 260

x( M)	12.500	0.0000	0.0000	9.5000	10.500	0.0000	12.500	10.000	0.0000	0.0000	0.0000
12	7.3826E-05	1.0138E-04	2992.0	85.626	228.46	46.166	46.290	11.097	9054.6	1.1340E+07	4.9219E+07
x( M)	12.500	0.0000	0.0000	9.5000	10.500	0.0000	12.500	10.000	0.0000	0.0000	0.0000
13	7.3788E-05	1.0138E-04	2990.8	85.633	228.38	46.173	46.279	11.094	9042.4	1.1340E+07	4.9219E+07
x( M)	12.500	0.0000	0.0000	9.5000	10.500	0.0000	12.500	10.000	0.0000	0.0000	0.0000
14	7.3748E-05	1.0138E-04	2989.7	85.641	228.30	46.180	46.267	11.091	9029.8	1.1340E+07	4.9219E+07
x( M)	12.500	0.0000	0.0000	9.5000	10.500	0.0000	12.500	10.000	0.0000	0.0000	0.0000
15	6.6102E-05	1.0876E-04	6809.2	27.207	352.49	22.829	138.03	5.2091	4440.5	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
16	6.6118E-05	1.0719E-04	6809.2	26.808	352.55	22.453	138.04	5.1270	4596.6	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
17	6.6135E-05	1.0562E-04	6809.2	26.409	352.60	22.077	138.04	5.0448	4752.7	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
18	6.6152E-05	1.0405E-04	6809.3	26.010	352.65	21.700	138.05	4.9627	4908.7	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
19	6.6168E-05	1.0248E-04	6809.3	25.610	352.70	21.325	138.06	4.8806	5064.8	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
20	6.6200E-05	1.0876E-04	6826.8	27.191	353.22	22.806	138.63	5.2025	4511.7	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
21	6.6277E-05	1.0719E-04	6826.8	26.792	353.28	22.430	138.64	5.1205	4667.8	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
22	6.6294E-05	1.0562E-04	6826.8	26.393	353.33	22.055	138.65	5.0385	4823.5	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
23	6.6310E-05	1.0405E-04	6826.9	25.994	353.38	21.679	138.66	4.9565	4979.9	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
24	6.6327E-05	1.0248E-04	6826.9	25.595	353.43	21.303	138.67	4.8745	5136.0	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
25	4.4896E-05	5.9559E-05	8174.8	24.379	1071.2	17.947	293.09	10.780	5381.0	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.000	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
26	4.4900E-05	5.7990E-05	8174.7	23.655	1071.2	17.365	293.11	10.427	5591.1	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.000	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
27	4.4904E-05	5.6421E-05	8174.7	22.930	1071.3	16.783	293.13	10.073	5801.1	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.000	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
28	4.4907E-05	5.4851E-05	8174.7	22.205	1071.4	16.201	293.15	9.7198	6011.2	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.000	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
29	4.4911E-05	5.3282E-05	8174.6	21.480	1071.5	15.620	293.17	9.3666	6221.3	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.000	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
30	4.4939E-05	5.9559E-05	8184.1	24.378	1072.3	17.940	293.40	10.777	5411.3	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.000	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
31	4.4943E-05	5.7990E-05	8184.0	23.653	1072.3	17.358	293.42	10.424	5621.4	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.000	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
32	4.4947E-05	5.6421E-05	8184.0	22.928	1072.4	16.777	293.44	10.071	5831.5	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.000	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
33	4.4950E-05	5.4851E-05	8183.9	22.203	1072.5	16.195	293.46	9.7174	6041.6	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.000	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
34	4.4954E-05	5.3282E-05	8183.9	21.478	1072.6	15.614	293.48	9.3643	6251.7	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.000	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
Max.	7.3982E-05	1.0985E-04	8184.1	93.220	1072.6	50.770	293.48	12.279	9103.8	4.9219E+07	4.9219E+07
Pile N.	8	1	30	7	34	7	34	1	8	15	1

LOAD CASE : 4  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
63771.8	-44273.5	1650.61
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
832.073	18070.1	-3.28780E+05


\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
5.79904E-04	-3.01941E-03	1.71016E-04
ANGLE ROT. X, RAD	ANGLE ROT. Y, RAD	ANGLE ROT. Z, RAD
9.35150E-07	7.19090E-06	3.91265E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
------------	------------	------------	------------	-------------	-------------	-------------

<b>APPALTATORE:</b> Consorzio <b>Soci</b>   		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>							<b>COMMESSA</b> <b>IF1N</b>

*****	*****	*****	*****	*****	*****	*****
1	3.5782E-04	-3.0269E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
2	3.3826E-04	-3.0244E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
3	3.1921E-04	-3.0219E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
4	3.0015E-04	-3.0194E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
5	2.8109E-04	-3.0169E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
6	2.6204E-04	-3.0145E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
7	2.4248E-04	-3.0119E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
8	9.1733E-04	-3.0269E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
9	8.9777E-04	-3.0244E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
10	8.7871E-04	-3.0219E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
11	8.5966E-04	-3.0194E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
12	8.4060E-04	-3.0169E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
13	8.2155E-04	-3.0145E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
14	8.0199E-04	-3.0119E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
15	3.0961E-04	-3.0112E-03	1.7597E-04	9.3515E-07	7.1909E-06	3.9126E-05
16	4.1330E-04	-3.0112E-03	1.7349E-04	9.3515E-07	7.1909E-06	3.9126E-05
17	5.1698E-04	-3.0112E-03	1.7102E-04	9.3515E-07	7.1909E-06	3.9126E-05
18	6.2067E-04	-3.0112E-03	1.6854E-04	9.3515E-07	7.1909E-06	3.9126E-05
19	7.2435E-04	-3.0112E-03	1.6606E-04	9.3515E-07	7.1909E-06	3.9126E-05
20	4.3545E-04	-3.0276E-03	1.7597E-04	9.3515E-07	7.1909E-06	3.9126E-05
21	5.3914E-04	-3.0276E-03	1.7349E-04	9.3515E-07	7.1909E-06	3.9126E-05
22	6.4282E-04	-3.0276E-03	1.7102E-04	9.3515E-07	7.1909E-06	3.9126E-05
23	7.4651E-04	-3.0276E-03	1.6854E-04	9.3515E-07	7.1909E-06	3.9126E-05
24	8.5019E-04	-3.0276E-03	1.6606E-04	9.3515E-07	7.1909E-06	3.9126E-05
25	3.5348E-04	-2.4692E-03	7.5300E-05	9.3515E-07	7.1909E-06	3.9126E-05
26	4.5716E-04	-2.4692E-03	7.2821E-05	9.3515E-07	7.1909E-06	3.9126E-05
27	5.6085E-04	-2.4692E-03	7.0343E-05	9.3515E-07	7.1909E-06	3.9126E-05
28	6.6453E-04	-2.4692E-03	6.7865E-05	9.3515E-07	7.1909E-06	3.9126E-05
29	7.6822E-04	-2.4692E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
30	3.9159E-04	-2.4741E-03	7.5300E-05	9.3515E-07	7.1909E-06	3.9126E-05
31	4.9527E-04	-2.4741E-03	7.2821E-05	9.3515E-07	7.1909E-06	3.9126E-05
32	5.9896E-04	-2.4741E-03	7.0343E-05	9.3515E-07	7.1909E-06	3.9126E-05
33	7.0265E-04	-2.4741E-03	6.7865E-05	9.3515E-07	7.1909E-06	3.9126E-05
34	8.0633E-04	-2.4741E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
MINIMUM	2.4248E-04	-3.0276E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.1733E-04	-2.4692E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	1050.5	-785.24	82.500	0.7597	-328.95	-2636.8
2	993.07	-784.77	82.523	0.7597	-329.01	-2634.9
3	937.13	-784.31	82.546	0.7597	-329.08	-2633.0
4	881.18	-783.85	82.569	0.7597	-329.14	-2631.2
5	825.24	-783.39	82.592	0.7597	-329.21	-2629.3
6	769.29	-782.93	82.615	0.7597	-329.27	-2627.4
7	711.87	-782.46	82.638	0.7597	-329.34	-2625.5
8	2693.1	-784.85	74.945	0.7597	-295.05	-2637.3
9	2635.7	-784.38	74.967	0.7597	-295.11	-2635.4
10	2579.7	-783.92	74.988	0.7597	-295.17	-2633.5
11	2523.8	-783.46	75.009	0.7597	-295.23	-2631.6
12	2467.8	-783.00	75.030	0.7597	-295.29	-2629.8
13	2411.9	-782.54	75.051	0.7597	-295.35	-2627.9
14	2354.5	-782.07	75.072	0.7597	-295.41	-2626.0
15	908.97	-1363.4	37.692	0.7597	-118.17	-6045.7
16	1213.4	-1363.3	37.069	0.7597	-116.02	-6045.7
17	1517.8	-1363.3	36.445	0.7597	-113.88	-6045.7
18	1822.2	-1363.2	35.821	0.7597	-111.73	-6045.8
19	2126.6	-1363.2	35.198	0.7597	-109.59	-6045.8
20	1278.4	-1368.8	37.620	0.7597	-118.02	-6074.4
21	1582.8	-1368.7	36.997	0.7597	-115.88	-6074.4
22	1887.2	-1368.7	36.374	0.7597	-113.73	-6074.4
23	2191.6	-1368.6	35.752	0.7597	-111.59	-6074.5
24	2496.0	-1368.5	35.130	0.7597	-109.45	-6074.5
25	1396.6	-1962.8	20.237	0.5003	-46.471	-7632.7
26	1806.3	-1962.7	19.295	0.5003	-43.619	-7632.7
27	2215.9	-1962.6	18.353	0.5003	-40.766	-7632.6
28	2625.6	-1962.5	17.411	0.5003	-37.914	-7632.6
29	3035.2	-1962.4	16.470	0.5003	-35.062	-7632.6
30	1547.2	-1966.1	20.223	0.5003	-46.450	-7647.6
31	1956.8	-1966.0	19.281	0.5003	-43.598	-7647.5
32	2366.5	-1965.9	18.340	0.5003	-40.747	-7647.5
33	2776.2	-1965.8	17.399	0.5003	-37.895	-7647.5
34	3185.8	-1965.7	16.458	0.5003	-35.044	-7647.5
MINIMUM	711.87	-1966.1	16.458	0.5003	-329.34	-7647.6
Pile N.	7	30	34	25	7	30
MAXIMUM	3185.8	-782.07	82.638	0.7597	-35.044	-2625.5
Pile N.	34	14	7	1	34	7

THE PILE COORDINATE SYSTEM (LOCAL AXES)

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APPALTATORE:

Consorzio

Soci



**ITINERARIO NAPOLI – BARI**

**RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA**

PROGETTAZIONE:

Mandatario

Mandanti



PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA  
IF1N

LOTTO  
01 E ZZ

CODIFICA  
RG

DOCUMENTO  
MD0000 001

REV.  
B

FOGLIO  
148 di  
260

\* PILE TOP DISPLACEMENTS \*

PILE GROUP *****	DISP. x, M *****	DISP. y, M *****	DISP. z, M *****	ROT. x,RAD *****	ROT. y,RAD *****	ROT. z,RAD *****
1	3.5782E-04	-3.0269E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
2	3.3826E-04	-3.0244E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
3	3.1921E-04	-3.0219E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
4	3.0015E-04	-3.0194E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
5	2.8109E-04	-3.0169E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
6	2.6204E-04	-3.0145E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
7	2.4248E-04	-3.0119E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
8	9.1733E-04	-3.0269E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
9	8.9777E-04	-3.0244E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
10	8.7871E-04	-3.0219E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
11	8.5966E-04	-3.0194E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
12	8.4060E-04	-3.0169E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
13	8.2155E-04	-3.0145E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
14	8.0199E-04	-3.0119E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
15	3.0961E-04	-3.0112E-03	1.7597E-04	9.3515E-07	7.1909E-06	3.9126E-05
16	4.1330E-04	-3.0112E-03	1.7349E-04	9.3515E-07	7.1909E-06	3.9126E-05
17	5.1698E-04	-3.0112E-03	1.7102E-04	9.3515E-07	7.1909E-06	3.9126E-05
18	6.2067E-04	-3.0112E-03	1.6854E-04	9.3515E-07	7.1909E-06	3.9126E-05
19	7.2435E-04	-3.0112E-03	1.6606E-04	9.3515E-07	7.1909E-06	3.9126E-05
20	4.3545E-04	-3.0276E-03	1.7597E-04	9.3515E-07	7.1909E-06	3.9126E-05
21	5.3914E-04	-3.0276E-03	1.7349E-04	9.3515E-07	7.1909E-06	3.9126E-05
22	6.4282E-04	-3.0276E-03	1.7102E-04	9.3515E-07	7.1909E-06	3.9126E-05
23	7.4651E-04	-3.0276E-03	1.6854E-04	9.3515E-07	7.1909E-06	3.9126E-05
24	8.5019E-04	-3.0276E-03	1.6606E-04	9.3515E-07	7.1909E-06	3.9126E-05
25	3.5348E-04	-2.4692E-03	7.5300E-05	9.3515E-07	7.1909E-06	3.9126E-05
26	4.5716E-04	-2.4692E-03	7.2821E-05	9.3515E-07	7.1909E-06	3.9126E-05
27	5.6085E-04	-2.4692E-03	7.0343E-05	9.3515E-07	7.1909E-06	3.9126E-05
28	6.6453E-04	-2.4692E-03	6.7865E-05	9.3515E-07	7.1909E-06	3.9126E-05
29	7.6822E-04	-2.4692E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
30	3.9159E-04	-2.4741E-03	7.5300E-05	9.3515E-07	7.1909E-06	3.9126E-05
31	4.9527E-04	-2.4741E-03	7.2821E-05	9.3515E-07	7.1909E-06	3.9126E-05
32	5.9896E-04	-2.4741E-03	7.0343E-05	9.3515E-07	7.1909E-06	3.9126E-05
33	7.0265E-04	-2.4741E-03	6.7865E-05	9.3515E-07	7.1909E-06	3.9126E-05
34	8.0633E-04	-2.4741E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
MINIMUM	2.4248E-04	-3.0276E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.1733E-04	-2.4692E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP *****	AXIAL, KN *****	LAT. y, KN *****	LAT. z, KN *****	MOM x, KN- M *****	MOM y, KN- M *****	MOM z, KN- M *****
1	1050.5	-785.24	82.500	0.7597	-328.95	-2636.8
2	993.07	-784.77	82.523	0.7597	-329.01	-2634.9
3	937.13	-784.31	82.546	0.7597	-329.08	-2633.0
4	881.18	-783.85	82.569	0.7597	-329.14	-2631.2
5	825.24	-783.39	82.592	0.7597	-329.21	-2629.3
6	769.29	-782.93	82.615	0.7597	-329.27	-2627.4
7	711.87	-782.46	82.638	0.7597	-329.34	-2625.5
8	2693.1	-784.85	74.945	0.7597	-295.05	-2637.3
9	2635.7	-784.38	74.967	0.7597	-295.11	-2635.4
10	2579.7	-783.92	74.988	0.7597	-295.17	-2633.5
11	2523.8	-783.46	75.009	0.7597	-295.23	-2631.6
12	2467.8	-783.00	75.030	0.7597	-295.29	-2629.8
13	2411.9	-782.54	75.051	0.7597	-295.35	-2627.9
14	2354.5	-782.07	75.072	0.7597	-295.41	-2626.0
15	908.97	-1363.4	37.692	0.7597	-118.17	-6045.7
16	1213.4	-1363.3	37.069	0.7597	-116.02	-6045.7
17	1517.8	-1363.3	36.445	0.7597	-113.88	-6045.7
18	1822.2	-1363.2	35.821	0.7597	-111.73	-6045.8
19	2126.6	-1363.2	35.198	0.7597	-109.59	-6045.8
20	1278.4	-1368.8	37.620	0.7597	-118.02	-6074.4
21	1582.8	-1368.7	36.997	0.7597	-115.88	-6074.4
22	1887.2	-1368.7	36.374	0.7597	-113.73	-6074.4
23	2191.6	-1368.6	35.752	0.7597	-111.59	-6074.5
24	2496.0	-1368.5	35.130	0.7597	-109.45	-6074.5
25	1396.6	-1962.8	20.237	0.5003	-46.471	-7632.7
26	1806.3	-1962.7	19.295	0.5003	-43.619	-7632.7
27	2215.9	-1962.6	18.353	0.5003	-40.766	-7632.6
28	2625.6	-1962.5	17.411	0.5003	-37.914	-7632.6
29	3035.2	-1962.4	16.470	0.5003	-35.062	-7632.6
30	1547.2	-1966.1	20.223	0.5003	-46.450	-7647.6
31	1956.8	-1966.0	19.281	0.5003	-43.598	-7647.5
32	2366.5	-1965.9	18.340	0.5003	-40.747	-7647.5
33	2776.2	-1965.8	17.399	0.5003	-37.895	-7647.5
34	3185.8	-1965.7	16.458	0.5003	-35.044	-7647.5
MINIMUM	711.87	-1966.1	16.458	0.5003	-329.34	-7647.6
Pile N.	7	30	34	25	7	30
MAXIMUM	3185.8	-782.07	82.638	0.7597	-35.044	-2625.5
Pile N.	34	14	7	1	34	7

APPALTATORE: Consorzio  Soci  	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>
PROGETTAZIONE: Mandataria  Mandanti  	
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B	COMMESSA IF1N    LOTTO 01 E ZZ    CODIFICA RG    DOCUMENTO MD0000 001    REV. B    FOGLIO 149 di 260

PILE GROUP	STRESS, KN/ M**2
*****	*****
1	7510.6
2	7486.3
3	7462.5
4	7438.8
5	7415.1
6	7391.4
7	7367.0
8	8058.9
9	8034.6
10	8010.8
11	7987.1
12	7963.4
13	7939.7
14	7915.3
15	4097.6
16	4198.6
17	4299.6
18	4400.6
19	4501.6
20	4238.6
21	4339.6
22	4440.6
23	4541.6
24	4642.7
25	5240.7
26	5377.1
27	5513.4
28	5649.8
29	5786.2
30	5300.2
31	5436.6
32	5572.9
33	5709.3
34	5845.7

MINIMUM            4097.6  
 Pile N.             15  
 MAXIMUM           8058.9  
 Pile N.             8

\* EFFECTS FOR LATERALLY LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL.		MOMENT		SHEAR		SOIL REACT		TOTAL STRESS	FLEX. RIG.	
	y-DIR	z-DIR	y-DIR	z-DIR	y-DIR	z-DIR	y-DIR	z-DIR		KN- M**2	KN- M**2
	M	M	KN- M	KN- M	KN	KN	KN/ M	KN/ M	KN/ M**2	KN- M**2	KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	-3.0269E-03	-3.4439E-06	-926.55	-328.95	-785.30	-25.499	-181.35	-5.9099	350.16	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
2	-3.0244E-03	-3.4445E-06	-925.90	-329.01	-784.83	-25.506	-181.26	-5.9088	331.02	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
3	-3.0219E-03	-3.4450E-06	-925.27	-329.08	-784.36	-25.513	-181.17	-5.9078	312.38	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
4	-3.0194E-03	-3.4455E-06	-924.64	-329.14	-783.90	-25.520	-181.08	-5.9067	293.73	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
5	-3.0169E-03	-3.4460E-06	-924.01	-329.21	-783.44	-25.527	-180.99	-5.9056	275.08	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
6	-3.0144E-03	-3.4465E-06	-923.38	-329.27	-782.98	-25.534	-180.90	-5.9046	256.43	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
7	-3.0119E-03	-3.4470E-06	-922.73	-329.34	-782.50	-25.541	-180.80	-5.9035	237.29	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
8	-3.0269E-03	-3.2010E-06	-927.28	-295.05	-785.00	-23.536	-181.36	-5.4309	897.70	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
9	-3.0244E-03	-3.2015E-06	-926.63	-295.11	-784.53	-23.543	-181.26	-5.4298	878.56	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
10	-3.0219E-03	-3.2019E-06	-926.00	-295.17	-784.07	-23.549	-181.17	-5.4289	859.91	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
11	-3.0194E-03	-3.2024E-06	-925.37	-295.23	-783.61	-23.556	-181.08	-5.4279	841.26	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
12	-3.0169E-03	-3.2029E-06	-924.74	-295.29	-783.14	-23.562	-180.99	-5.4269	822.62	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
13	-3.0144E-03	-3.2033E-06	-924.11	-295.35	-782.68	-23.569	-180.90	-5.4258	803.97	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
14	-3.0119E-03	-3.2038E-06	-923.46	-295.41	-782.21	-23.575	-180.81	-5.4248	784.83	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
15	-3.0112E-03	-2.2811E-06	-2015.2	-118.17	-1363.4	-8.5242	-224.61	-4.0196	302.99	4.9219E+07	1.1340E+07
x(M)	0.0000	13.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
16	-3.0112E-03	-2.2495E-06	-2015.3	-116.02	-1363.4	-8.4002	-224.61	-3.9613	404.46	4.9219E+07	1.1340E+07
x(M)	0.0000	13.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
17	-3.0112E-03	-2.2180E-06	-2015.4	-113.88	-1363.3	-8.2762	-224.61	-3.9029	505.92	4.9219E+07	1.1340E+07
x(M)	0.0000	13.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
18	-3.0112E-03	-2.1864E-06	-2015.5	-111.73	-1363.3	-8.1521	-224.61	-3.8444	607.39	4.9219E+07	1.1340E+07
x(M)	0.0000	13.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
19	-3.0112E-03	-2.1548E-06	-2015.5	-109.59	-1363.2	-8.0079	-224.61	-3.7860	708.86	4.9219E+07	1.1340E+07

APPALDATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandatario

Mandanti



RADDOPPIO TRATTA APICE – ORSARA I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF1N 01 E ZZ RG MD0000 001 B 150 di 260

Table with 12 columns showing numerical data for various pile types (x(M), 20, 21, etc.) and their corresponding values across different parameters.

\* MAXIMUM VALUES AND LOCATIONS \*

Detailed data table with columns: PILE, DISPL. y-DIR, DISPL. z-DIR, MOMENT z-DIR, MOMENT y-DIR, SHEAR y-DIR, SHEAR z-DIR, SOIL REACT y-DIR, SOIL REACT z-DIR, TOTAL STRESS, FLEX. RIG. z-DIR, FLEX. RIG. y-DIR.

APPALTATORE: Consorzio <b>HirpiniaAV</b> Soci <b>salini impregilo</b> <b>ASTALDI</b>		<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
PROGETTAZIONE: Mandataria <b>ROKSOJL</b> Mandanti <b>NETENGINEERING</b> <b>Alpina</b>						
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B						
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	
IF1N	01 E ZZ	RG	MD0000 001	B	151 di 260	

x( M)	16.500	0.0000	0.0000	7.0000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
25	4.0819E-05	7.5300E-05	7632.7	28.482	971.40	20.238	265.10	11.819	5240.7	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
26	4.0821E-05	7.2821E-05	7632.7	27.329	971.44	19.296	265.11	11.251	5377.1	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
27	4.0823E-05	7.0343E-05	7632.6	26.176	971.48	18.354	265.12	10.684	5513.4	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
28	4.0825E-05	6.7865E-05	7632.6	25.023	971.52	17.413	265.13	10.117	5649.8	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
29	4.0827E-05	6.5387E-05	7632.6	23.870	971.56	16.471	265.14	9.5493	5786.2	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
30	4.0893E-05	7.5300E-05	7647.6	28.479	973.22	20.224	265.61	11.814	5300.2	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
31	4.0895E-05	7.2821E-05	7647.5	27.326	973.26	19.283	265.62	11.246	5436.6	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
32	4.0897E-05	7.0343E-05	7647.5	26.173	973.30	18.341	265.63	10.679	5572.9	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
33	4.0899E-05	6.7865E-05	7647.5	25.021	973.34	17.400	265.64	10.112	5709.3	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
34	4.0901E-05	6.5387E-05	7647.5	23.868	973.39	16.459	265.66	9.5453	5845.7	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
Max.	6.0931E-05	1.7770E-04	7647.6	152.36	973.39	82.639	265.66	19.164	8058.9	4.9219E+07	4.9219E+07
Pile N.	8	1	30	7	34	7	34	7	8	15	1

LOAD CASE : 5  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
39677.2	-45937.8	1395.03
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
704.565	13953.0	-3.00134E+05


\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
3.60788E-04	-3.30261E-03	1.44712E-04
ANGLE ROT. X, RAD	ANGLE ROT. Y, RAD	ANGLE ROT. Z, RAD
8.06844E-07	5.80285E-06	5.18856E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
1	3.6345E-05	-3.3091E-03	1.5048E-04	8.0684E-07	5.8028E-06	5.1886E-05
2	2.0561E-05	-3.3069E-03	1.5048E-04	8.0684E-07	5.8028E-06	5.1886E-05
3	5.1834E-06	-3.3047E-03	1.5048E-04	8.0684E-07	5.8028E-06	5.1886E-05
4	-1.0194E-05	-3.3026E-03	1.5048E-04	8.0684E-07	5.8028E-06	5.1886E-05
5	-2.5572E-05	-3.3005E-03	1.5048E-04	8.0684E-07	5.8028E-06	5.1886E-05
6	-4.0949E-05	-3.2983E-03	1.5048E-04	8.0684E-07	5.8028E-06	5.1886E-05
7	-5.6733E-05	-3.2961E-03	1.5048E-04	8.0684E-07	5.8028E-06	5.1886E-05
8	7.7831E-04	-3.3091E-03	1.3894E-04	8.0684E-07	5.8028E-06	5.1886E-05
9	7.6253E-04	-3.3069E-03	1.3894E-04	8.0684E-07	5.8028E-06	5.1886E-05
10	7.4715E-04	-3.3047E-03	1.3894E-04	8.0684E-07	5.8028E-06	5.1886E-05
11	7.3177E-04	-3.3026E-03	1.3894E-04	8.0684E-07	5.8028E-06	5.1886E-05
12	7.1639E-04	-3.3005E-03	1.3894E-04	8.0684E-07	5.8028E-06	5.1886E-05
13	7.0102E-04	-3.2983E-03	1.3894E-04	8.0684E-07	5.8028E-06	5.1886E-05
14	6.8523E-04	-3.2961E-03	1.3894E-04	8.0684E-07	5.8028E-06	5.1886E-05
15	3.5019E-05	-3.2955E-03	1.4899E-04	8.0684E-07	5.8028E-06	5.1886E-05
16	1.7252E-04	-3.2955E-03	1.4685E-04	8.0684E-07	5.8028E-06	5.1886E-05
17	3.1001E-04	-3.2955E-03	1.4471E-04	8.0684E-07	5.8028E-06	5.1886E-05
18	4.4751E-04	-3.2955E-03	1.4257E-04	8.0684E-07	5.8028E-06	5.1886E-05
19	5.8501E-04	-3.2955E-03	1.4044E-04	8.0684E-07	5.8028E-06	5.1886E-05
20	1.3657E-04	-3.3097E-03	1.4899E-04	8.0684E-07	5.8028E-06	5.1886E-05
21	2.7407E-04	-3.3097E-03	1.4685E-04	8.0684E-07	5.8028E-06	5.1886E-05
22	4.1156E-04	-3.3097E-03	1.4471E-04	8.0684E-07	5.8028E-06	5.1886E-05
23	5.4906E-04	-3.3097E-03	1.4257E-04	8.0684E-07	5.8028E-06	5.1886E-05
24	6.8656E-04	-3.3097E-03	1.4044E-04	8.0684E-07	5.8028E-06	5.1886E-05
25	7.0417E-05	-2.5741E-03	6.7749E-05	8.0684E-07	5.8028E-06	5.1886E-05

<b>APPALTATORE:</b> Consorzio <b>Soci</b>   		<b>ITINERARIO NAPOLI – BARI</b>					
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   		<b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		<b>COMMESSA</b> <b>IF1N</b>	<b>LOTTO</b> <b>01 E ZZ</b>	<b>CODIFICA</b> <b>RG</b>	<b>DOCUMENTO</b> <b>MD0000 001</b>	<b>REV.</b> <b>B</b>	<b>FOGLIO</b> <b>152 di 260</b>

26	2.0791E-04	-2.5741E-03	6.5611E-05	8.0684E-07	5.8028E-06	5.1886E-05
27	3.4541E-04	-2.5741E-03	6.3472E-05	8.0684E-07	5.8028E-06	5.1886E-05
28	4.8291E-04	-2.5741E-03	6.1334E-05	8.0684E-07	5.8028E-06	5.1886E-05
29	6.2040E-04	-2.5741E-03	5.9196E-05	8.0684E-07	5.8028E-06	5.1886E-05
30	1.0117E-04	-2.5784E-03	6.7749E-05	8.0684E-07	5.8028E-06	5.1886E-05
31	2.3867E-04	-2.5784E-03	6.5611E-05	8.0684E-07	5.8028E-06	5.1886E-05
32	3.7617E-04	-2.5784E-03	6.3472E-05	8.0684E-07	5.8028E-06	5.1886E-05
33	5.1366E-04	-2.5784E-03	6.1334E-05	8.0684E-07	5.8028E-06	5.1886E-05
34	6.5116E-04	-2.5784E-03	5.9196E-05	8.0684E-07	5.8028E-06	5.1886E-05
MINIMUM	-5.6733E-05	-3.3097E-03	5.9196E-05	8.0684E-07	5.8028E-06	5.1886E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	7.7831E-04	-2.5741E-03	1.5048E-04	8.0684E-07	5.8028E-06	5.1886E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	106.70	-829.93	68.905	0.6555	-278.65	-2791.5
2	60.363	-829.53	68.920	0.6555	-278.70	-2789.9
3	15.217	-829.14	68.935	0.6555	-278.74	-2788.3
4	-29.808	-828.76	68.950	0.6555	-278.78	-2786.7
5	-74.773	-828.37	68.965	0.6555	-278.82	-2785.1
6	-119.74	-827.99	68.980	0.6555	-278.87	-2783.5
7	-165.89	-827.59	68.996	0.6555	-278.91	-2781.9
8	2285.0	-829.24	62.511	0.6555	-249.77	-2791.8
9	2238.6	-828.85	62.525	0.6555	-249.81	-2790.2
10	2193.5	-828.46	62.539	0.6555	-249.85	-2788.6
11	2148.3	-828.08	62.552	0.6555	-249.89	-2787.0
12	2103.2	-827.69	62.566	0.6555	-249.92	-2785.4
13	2058.0	-827.30	62.580	0.6555	-249.96	-2783.8
14	2011.7	-826.91	62.594	0.6555	-250.00	-2782.2
15	102.81	-1435.3	31.351	0.6555	-99.555	-6359.3
16	506.47	-1435.2	30.824	0.6555	-97.734	-6359.4
17	910.14	-1435.1	30.298	0.6555	-95.913	-6359.4
18	1313.8	-1435.0	29.771	0.6555	-94.092	-6359.4
19	1717.5	-1434.9	29.244	0.6555	-92.271	-6359.5
20	400.94	-1439.8	31.303	0.6555	-99.456	-6383.8
21	804.61	-1439.7	30.777	0.6555	-97.636	-6383.8
22	1208.3	-1439.6	30.251	0.6555	-95.817	-6383.8
23	1611.9	-1439.5	29.725	0.6555	-93.997	-6383.9
24	2015.6	-1439.4	29.199	0.6555	-92.178	-6383.9
25	278.22	-1995.5	18.797	0.4316	-45.234	-7700.9
26	821.47	-1995.4	17.989	0.4316	-42.784	-7700.8
27	1364.7	-1995.2	17.182	0.4316	-40.335	-7700.8
28	1908.0	-1995.1	16.375	0.4316	-37.886	-7700.7
29	2451.2	-1994.9	15.568	0.4316	-35.436	-7700.7
30	399.73	-1998.4	18.786	0.4316	-45.217	-7713.7
31	942.98	-1998.2	17.979	0.4316	-42.768	-7713.6
32	1486.2	-1998.0	17.172	0.4316	-40.320	-7713.6
33	2029.5	-1997.9	16.365	0.4316	-37.871	-7713.6
34	2572.7	-1997.7	15.559	0.4316	-35.423	-7713.5
MINIMUM	-165.89	-1998.4	15.559	0.4316	-278.91	-7713.7
Pile N.	7	30	34	25	7	30
MAXIMUM	2572.7	-826.91	68.996	0.6555	-35.423	-2781.9
Pile N.	34	14	7	1	34	7

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
1	3.6345E-05	-3.3091E-03	1.5048E-04	8.0684E-07	5.8028E-06	5.1886E-05
2	2.0561E-05	-3.3069E-03	1.5048E-04	8.0684E-07	5.8028E-06	5.1886E-05
3	5.1834E-06	-3.3047E-03	1.5048E-04	8.0684E-07	5.8028E-06	5.1886E-05
4	-1.0194E-05	-3.3026E-03	1.5048E-04	8.0684E-07	5.8028E-06	5.1886E-05
5	-2.5572E-05	-3.3005E-03	1.5048E-04	8.0684E-07	5.8028E-06	5.1886E-05
6	-4.0949E-05	-3.2983E-03	1.5048E-04	8.0684E-07	5.8028E-06	5.1886E-05
7	-5.6733E-05	-3.2961E-03	1.5048E-04	8.0684E-07	5.8028E-06	5.1886E-05
8	7.7831E-04	-3.3091E-03	1.3894E-04	8.0684E-07	5.8028E-06	5.1886E-05
9	7.6253E-04	-3.3069E-03	1.3894E-04	8.0684E-07	5.8028E-06	5.1886E-05
10	7.4715E-04	-3.3047E-03	1.3894E-04	8.0684E-07	5.8028E-06	5.1886E-05
11	7.3177E-04	-3.3026E-03	1.3894E-04	8.0684E-07	5.8028E-06	5.1886E-05
12	7.1639E-04	-3.3005E-03	1.3894E-04	8.0684E-07	5.8028E-06	5.1886E-05
13	7.0102E-04	-3.2983E-03	1.3894E-04	8.0684E-07	5.8028E-06	5.1886E-05
14	6.8523E-04	-3.2961E-03	1.3894E-04	8.0684E-07	5.8028E-06	5.1886E-05
15	3.5019E-05	-3.2955E-03	1.4899E-04	8.0684E-07	5.8028E-06	5.1886E-05
16	1.7252E-04	-3.2955E-03	1.4685E-04	8.0684E-07	5.8028E-06	5.1886E-05
17	3.1001E-04	-3.2955E-03	1.4471E-04	8.0684E-07	5.8028E-06	5.1886E-05
18	4.4751E-04	-3.2955E-03	1.4257E-04	8.0684E-07	5.8028E-06	5.1886E-05
19	5.8501E-04	-3.2955E-03	1.4044E-04	8.0684E-07	5.8028E-06	5.1886E-05
20	1.3657E-04	-3.3097E-03	1.4899E-04	8.0684E-07	5.8028E-06	5.1886E-05
21	2.7407E-04	-3.3097E-03	1.4685E-04	8.0684E-07	5.8028E-06	5.1886E-05



<b>APPALTATORE:</b> Consorzio <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
<b>COMMESSA</b> IF1N	<b>LOTTO</b> 01 E ZZ	<b>CODIFICA</b> RG	<b>DOCUMENTO</b> MD0000 001	<b>REV.</b> B	<b>FOGLIO</b> 153 di 260

22	4.1156E-04	-3.3097E-03	1.4471E-04	8.0684E-07	5.8028E-06	5.1886E-05
23	5.4906E-04	-3.3097E-03	1.4257E-04	8.0684E-07	5.8028E-06	5.1886E-05
24	6.8656E-04	-3.3097E-03	1.4044E-04	8.0684E-07	5.8028E-06	5.1886E-05
25	7.0417E-05	-2.5741E-03	6.7749E-05	8.0684E-07	5.8028E-06	5.1886E-05
26	2.0791E-04	-2.5741E-03	6.5611E-05	8.0684E-07	5.8028E-06	5.1886E-05
27	3.4541E-04	-2.5741E-03	6.3472E-05	8.0684E-07	5.8028E-06	5.1886E-05
28	4.8291E-04	-2.5741E-03	6.1334E-05	8.0684E-07	5.8028E-06	5.1886E-05
29	6.2040E-04	-2.5741E-03	5.9196E-05	8.0684E-07	5.8028E-06	5.1886E-05
30	1.0117E-04	-2.5784E-03	6.7749E-05	8.0684E-07	5.8028E-06	5.1886E-05
31	2.3867E-04	-2.5784E-03	6.5611E-05	8.0684E-07	5.8028E-06	5.1886E-05
32	3.7617E-04	-2.5784E-03	6.3472E-05	8.0684E-07	5.8028E-06	5.1886E-05
33	5.1366E-04	-2.5784E-03	6.1334E-05	8.0684E-07	5.8028E-06	5.1886E-05
34	6.5116E-04	-2.5784E-03	5.9196E-05	8.0684E-07	5.8028E-06	5.1886E-05
MINIMUM	-5.6733E-05	-3.3097E-03	5.9196E-05	8.0684E-07	5.8028E-06	5.1886E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	7.7831E-04	-2.5741E-03	1.5048E-04	8.0684E-07	5.8028E-06	5.1886E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
1	106.70	-829.93	68.905	0.6555	-278.65	-2791.5
2	60.363	-829.53	68.920	0.6555	-278.70	-2789.9
3	15.217	-829.14	68.935	0.6555	-278.74	-2788.3
4	-29.808	-828.76	68.950	0.6555	-278.78	-2786.7
5	-74.773	-828.37	68.965	0.6555	-278.82	-2785.1
6	-119.74	-827.99	68.980	0.6555	-278.87	-2783.5
7	-165.89	-827.59	68.996	0.6555	-278.91	-2781.9
8	2285.0	-829.24	62.511	0.6555	-249.77	-2791.8
9	2238.6	-828.85	62.525	0.6555	-249.81	-2790.2
10	2193.5	-828.46	62.539	0.6555	-249.85	-2788.6
11	2148.3	-828.08	62.552	0.6555	-249.89	-2787.0
12	2103.2	-827.69	62.566	0.6555	-249.92	-2785.4
13	2058.0	-827.30	62.580	0.6555	-249.96	-2783.8
14	2011.7	-826.91	62.594	0.6555	-250.00	-2782.2
15	102.81	-1435.3	31.351	0.6555	-99.555	-6359.3
16	506.47	-1435.2	30.824	0.6555	-97.734	-6359.4
17	910.14	-1435.1	30.298	0.6555	-95.913	-6359.4
18	1313.8	-1435.0	29.771	0.6555	-94.092	-6359.4
19	1717.5	-1434.9	29.244	0.6555	-92.271	-6359.5
20	400.94	-1439.8	31.303	0.6555	-99.456	-6383.8
21	804.61	-1439.7	30.777	0.6555	-97.636	-6383.8
22	1208.3	-1439.6	30.251	0.6555	-95.817	-6383.8
23	1611.9	-1439.5	29.725	0.6555	-93.997	-6383.9
24	2015.6	-1439.4	29.199	0.6555	-92.178	-6383.9
25	278.22	-1995.5	18.797	0.4316	-45.234	-7700.9
26	821.47	-1995.4	17.989	0.4316	-42.784	-7700.8
27	1364.7	-1995.2	17.182	0.4316	-40.335	-7700.8
28	1908.0	-1995.1	16.375	0.4316	-37.886	-7700.7
29	2451.2	-1994.9	15.568	0.4316	-35.436	-7700.7
30	399.73	-1998.4	18.786	0.4316	-45.217	-7713.7
31	942.98	-1998.2	17.979	0.4316	-42.768	-7713.6
32	1486.2	-1998.0	17.172	0.4316	-40.320	-7713.6
33	2029.5	-1997.9	16.365	0.4316	-37.871	-7713.6
34	2572.7	-1997.7	15.559	0.4316	-35.423	-7713.5
MINIMUM	-165.89	-1998.4	15.559	0.4316	-278.91	-7713.7
Pile N.	7	30	34	25	7	30
MAXIMUM	2572.7	-826.91	68.996	0.6555	-35.423	-2781.9
Pile N.	34	14	7	1	34	7

PILE GROUP	STRESS, KN/ M**2
1	7614.9
2	7595.1
3	7575.7
4	7576.3
5	7586.9
6	7597.6
7	7608.5
8	8341.6
9	8321.7
10	8302.3
11	8283.0
12	8263.6
13	8244.2
14	8224.4
15	4020.6
16	4154.9
17	4289.1
18	4423.4
19	4557.6
20	4135.2
21	4269.5
22	4403.7
23	4538.0





<b>APPALTATORE:</b> Consorzio  Soci  	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>											
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  												
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">COMMESSA</td> <td style="width: 15%;">LOTTO</td> <td style="width: 15%;">CODIFICA</td> <td style="width: 15%;">DOCUMENTO</td> <td style="width: 15%;">REV.</td> <td style="width: 15%;">FOGLIO</td> </tr> <tr> <td>IF1N</td> <td>01 E ZZ</td> <td>RG</td> <td>MD0000 001</td> <td>B</td> <td>156 di 260</td> </tr> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF1N	01 E ZZ	RG	MD0000 001	B	156 di 260
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO							
IF1N	01 E ZZ	RG	MD0000 001	B	156 di 260							

LOAD CASE : 6  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
63946.6	-49223.9	1650.61
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
805.212	18070.1	-3.04230E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
5.81494E-04	-3.68141E-03	1.78377E-04
ANGLE ROT. X, RAD	ANGLE ROT. Y, RAD	ANGLE ROT. Z, RAD
9.51926E-07	7.27731E-06	6.13025E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
*****	*****	*****	*****	*****	*****	*****
1	2.0154E-04	-3.6890E-03	1.8518E-04	9.5193E-07	7.2773E-06	6.1302E-05
2	1.8175E-04	-3.6864E-03	1.8518E-04	9.5193E-07	7.2773E-06	6.1302E-05
3	1.6247E-04	-3.6839E-03	1.8518E-04	9.5193E-07	7.2773E-06	6.1302E-05
4	1.4318E-04	-3.6814E-03	1.8518E-04	9.5193E-07	7.2773E-06	6.1302E-05
5	1.2390E-04	-3.6789E-03	1.8518E-04	9.5193E-07	7.2773E-06	6.1302E-05
6	1.0461E-04	-3.6764E-03	1.8518E-04	9.5193E-07	7.2773E-06	6.1302E-05
7	8.4817E-05	-3.6738E-03	1.8518E-04	9.5193E-07	7.2773E-06	6.1302E-05
8	1.0782E-03	-3.6890E-03	1.7157E-04	9.5193E-07	7.2773E-06	6.1302E-05
9	1.0584E-03	-3.6864E-03	1.7157E-04	9.5193E-07	7.2773E-06	6.1302E-05
10	1.0391E-03	-3.6839E-03	1.7157E-04	9.5193E-07	7.2773E-06	6.1302E-05
11	1.0198E-03	-3.6814E-03	1.7157E-04	9.5193E-07	7.2773E-06	6.1302E-05
12	1.0005E-03	-3.6789E-03	1.7157E-04	9.5193E-07	7.2773E-06	6.1302E-05
13	9.8124E-04	-3.6764E-03	1.7157E-04	9.5193E-07	7.2773E-06	6.1302E-05
14	9.6144E-04	-3.6738E-03	1.7157E-04	9.5193E-07	7.2773E-06	6.1302E-05
15	1.9291E-04	-3.6731E-03	1.8342E-04	9.5193E-07	7.2773E-06	6.1302E-05
16	3.5537E-04	-3.6731E-03	1.8090E-04	9.5193E-07	7.2773E-06	6.1302E-05
17	5.1782E-04	-3.6731E-03	1.7838E-04	9.5193E-07	7.2773E-06	6.1302E-05
18	6.8027E-04	-3.6731E-03	1.7585E-04	9.5193E-07	7.2773E-06	6.1302E-05
19	8.4272E-04	-3.6731E-03	1.7333E-04	9.5193E-07	7.2773E-06	6.1302E-05
20	3.2027E-04	-3.6897E-03	1.8342E-04	9.5193E-07	7.2773E-06	6.1302E-05
21	4.8272E-04	-3.6897E-03	1.8090E-04	9.5193E-07	7.2773E-06	6.1302E-05
22	6.4517E-04	-3.6897E-03	1.7838E-04	9.5193E-07	7.2773E-06	6.1302E-05
23	8.0762E-04	-3.6897E-03	1.7585E-04	9.5193E-07	7.2773E-06	6.1302E-05
24	9.7007E-04	-3.6897E-03	1.7333E-04	9.5193E-07	7.2773E-06	6.1302E-05
25	2.3731E-04	-2.8207E-03	8.1539E-05	9.5193E-07	7.2773E-06	6.1302E-05
26	3.9976E-04	-2.8207E-03	7.9017E-05	9.5193E-07	7.2773E-06	6.1302E-05
27	5.6221E-04	-2.8207E-03	7.6494E-05	9.5193E-07	7.2773E-06	6.1302E-05
28	7.2466E-04	-2.8207E-03	7.3972E-05	9.5193E-07	7.2773E-06	6.1302E-05
29	8.8711E-04	-2.8207E-03	7.1449E-05	9.5193E-07	7.2773E-06	6.1302E-05
30	2.7588E-04	-2.8257E-03	8.1539E-05	9.5193E-07	7.2773E-06	6.1302E-05
31	4.3833E-04	-2.8257E-03	7.9017E-05	9.5193E-07	7.2773E-06	6.1302E-05
32	6.0078E-04	-2.8257E-03	7.6494E-05	9.5193E-07	7.2773E-06	6.1302E-05
33	7.6323E-04	-2.8257E-03	7.3972E-05	9.5193E-07	7.2773E-06	6.1302E-05
34	9.2568E-04	-2.8257E-03	7.1449E-05	9.5193E-07	7.2773E-06	6.1302E-05
MINIMUM	8.4817E-05	-3.6897E-03	7.1449E-05	9.5193E-07	7.2773E-06	6.1302E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.0782E-03	-2.8207E-03	1.8518E-04	9.5193E-07	7.2773E-06	6.1302E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	591.70	-892.84	81.639	0.7733	-332.19	-3028.2
2	533.59	-892.39	81.658	0.7733	-332.24	-3026.3
3	476.97	-891.95	81.676	0.7733	-332.29	-3024.5
4	420.35	-891.51	81.695	0.7733	-332.34	-3022.7
5	363.74	-891.08	81.713	0.7733	-332.40	-3020.8
6	307.12	-890.64	81.732	0.7733	-332.45	-3019.0
7	249.01	-890.19	81.751	0.7733	-332.50	-3017.1

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandataria

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 157 di 260
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8	3165.3	-891.94	74.331	0.7733	-298.87	-3028.6
9	3107.2	-891.49	74.348	0.7733	-298.92	-3026.8
10	3050.6	-891.05	74.365	0.7733	-298.96	-3024.9
11	2994.0	-890.62	74.382	0.7733	-299.01	-3023.1
12	2937.3	-890.18	74.399	0.7733	-299.06	-3021.2
13	2880.7	-889.74	74.416	0.7733	-299.10	-3019.4
14	2822.6	-889.29	74.434	0.7733	-299.15	-3017.5
15	566.36	-1540.1	37.219	0.7733	-119.05	-6872.2
16	1043.3	-1540.0	36.615	0.7733	-116.94	-6872.2
17	1520.2	-1539.9	36.011	0.7733	-114.84	-6872.3
18	1997.1	-1539.8	35.407	0.7733	-112.74	-6872.3
19	2474.1	-1539.6	34.803	0.7733	-110.63	-6872.4
20	940.24	-1545.3	37.157	0.7733	-118.92	-6900.4
21	1417.2	-1545.2	36.553	0.7733	-116.82	-6900.4
22	1894.1	-1545.0	35.950	0.7733	-114.72	-6900.5
23	2371.0	-1544.9	35.348	0.7733	-112.62	-6900.5
24	2848.0	-1544.8	34.745	0.7733	-110.51	-6900.6
25	937.60	-2131.2	21.696	0.5092	-51.805	-8253.5
26	1579.4	-2131.0	20.764	0.5092	-48.954	-8253.5
27	2221.3	-2130.8	19.832	0.5092	-46.103	-8253.4
28	2863.1	-2130.6	18.901	0.5092	-43.252	-8253.4
29	3505.0	-2130.4	17.970	0.5092	-40.402	-8253.3
30	1090.0	-2134.5	21.682	0.5092	-51.784	-8268.4
31	1731.8	-2134.3	20.751	0.5092	-48.934	-8268.4
32	2373.7	-2134.1	19.819	0.5092	-46.084	-8268.3
33	3015.5	-2133.9	18.889	0.5092	-43.234	-8268.3
34	3657.4	-2133.7	17.958	0.5092	-40.385	-8268.2
MINIMUM	249.01	-2134.5	17.958	0.5092	-332.50	-8268.4
Pile N.	7	34	25	7		30
MAXIMUM	3657.4	-889.29	81.751	0.7733	-40.385	-3017.1
Pile N.	34	14	7	1	34	7






THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
1	2.0154E-04	-3.6890E-03	1.8518E-04	9.5193E-07	7.2773E-06	6.1302E-05
2	1.8175E-04	-3.6864E-03	1.8518E-04	9.5193E-07	7.2773E-06	6.1302E-05
3	1.6247E-04	-3.6839E-03	1.8518E-04	9.5193E-07	7.2773E-06	6.1302E-05
4	1.4318E-04	-3.6814E-03	1.8518E-04	9.5193E-07	7.2773E-06	6.1302E-05
5	1.2390E-04	-3.6789E-03	1.8518E-04	9.5193E-07	7.2773E-06	6.1302E-05
6	1.0461E-04	-3.6764E-03	1.8518E-04	9.5193E-07	7.2773E-06	6.1302E-05
7	8.4817E-05	-3.6738E-03	1.8518E-04	9.5193E-07	7.2773E-06	6.1302E-05
8	1.0782E-03	-3.6890E-03	1.7157E-04	9.5193E-07	7.2773E-06	6.1302E-05
9	1.0584E-03	-3.6864E-03	1.7157E-04	9.5193E-07	7.2773E-06	6.1302E-05
10	1.0391E-03	-3.6839E-03	1.7157E-04	9.5193E-07	7.2773E-06	6.1302E-05
11	1.0198E-03	-3.6814E-03	1.7157E-04	9.5193E-07	7.2773E-06	6.1302E-05
12	1.0005E-03	-3.6789E-03	1.7157E-04	9.5193E-07	7.2773E-06	6.1302E-05
13	9.8124E-04	-3.6764E-03	1.7157E-04	9.5193E-07	7.2773E-06	6.1302E-05
14	9.6144E-04	-3.6738E-03	1.7157E-04	9.5193E-07	7.2773E-06	6.1302E-05
15	1.9291E-04	-3.6731E-03	1.8342E-04	9.5193E-07	7.2773E-06	6.1302E-05
16	3.5537E-04	-3.6731E-03	1.8090E-04	9.5193E-07	7.2773E-06	6.1302E-05
17	5.1782E-04	-3.6731E-03	1.7838E-04	9.5193E-07	7.2773E-06	6.1302E-05
18	6.8027E-04	-3.6731E-03	1.7585E-04	9.5193E-07	7.2773E-06	6.1302E-05
19	8.4272E-04	-3.6731E-03	1.7333E-04	9.5193E-07	7.2773E-06	6.1302E-05
20	3.2027E-04	-3.6897E-03	1.8342E-04	9.5193E-07	7.2773E-06	6.1302E-05
21	4.8272E-04	-3.6897E-03	1.8090E-04	9.5193E-07	7.2773E-06	6.1302E-05
22	6.4517E-04	-3.6897E-03	1.7838E-04	9.5193E-07	7.2773E-06	6.1302E-05
23	8.0762E-04	-3.6897E-03	1.7585E-04	9.5193E-07	7.2773E-06	6.1302E-05
24	9.7007E-04	-3.6897E-03	1.7333E-04	9.5193E-07	7.2773E-06	6.1302E-05
25	2.3731E-04	-2.8207E-03	8.1539E-05	9.5193E-07	7.2773E-06	6.1302E-05
26	3.9976E-04	-2.8207E-03	7.9017E-05	9.5193E-07	7.2773E-06	6.1302E-05
27	5.6221E-04	-2.8207E-03	7.6494E-05	9.5193E-07	7.2773E-06	6.1302E-05
28	7.2466E-04	-2.8207E-03	7.3972E-05	9.5193E-07	7.2773E-06	6.1302E-05
29	8.8711E-04	-2.8207E-03	7.1449E-05	9.5193E-07	7.2773E-06	6.1302E-05
30	2.7588E-04	-2.8257E-03	8.1539E-05	9.5193E-07	7.2773E-06	6.1302E-05
31	4.3833E-04	-2.8257E-03	7.9017E-05	9.5193E-07	7.2773E-06	6.1302E-05
32	6.0078E-04	-2.8257E-03	7.6494E-05	9.5193E-07	7.2773E-06	6.1302E-05
33	7.6323E-04	-2.8257E-03	7.3972E-05	9.5193E-07	7.2773E-06	6.1302E-05
34	9.2568E-04	-2.8257E-03	7.1449E-05	9.5193E-07	7.2773E-06	6.1302E-05
MINIMUM	8.4817E-05	-3.6897E-03	7.1449E-05	9.5193E-07	7.2773E-06	6.1302E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.0782E-03	-2.8207E-03	1.8518E-04	9.5193E-07	7.2773E-06	6.1302E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
1	591.70	-892.84	81.639	0.7733	-332.19	-3028.2
2	533.59	-892.39	81.658	0.7733	-332.24	-3026.3
3	476.97	-891.95	81.676	0.7733	-332.29	-3024.5

<b>APPALTATORE:</b> Consorzio  Soci  	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
<b>COMMESSA</b> IF1N	<b>LOTTO</b> 01 E ZZ	<b>CODIFICA</b> RG	<b>DOCUMENTO</b> MD0000 001	<b>REV.</b> B	<b>FOGLIO</b> 158 di 260

4	420.35	-891.51	81.695	0.7733	-332.34	-3022.7
5	363.74	-891.08	81.713	0.7733	-332.40	-3020.8
6	307.12	-890.64	81.732	0.7733	-332.45	-3019.0
7	249.01	-890.19	81.751	0.7733	-332.50	-3017.1
8	3165.3	-891.94	74.331	0.7733	-298.87	-3028.6
9	3107.2	-891.49	74.348	0.7733	-298.92	-3026.8
10	3050.6	-891.05	74.365	0.7733	-298.96	-3024.9
11	2994.0	-890.62	74.382	0.7733	-299.01	-3023.1
12	2937.3	-890.18	74.399	0.7733	-299.06	-3021.2
13	2880.7	-889.74	74.416	0.7733	-299.10	-3019.4
14	2822.6	-889.29	74.434	0.7733	-299.15	-3017.5
15	566.36	-1540.1	37.219	0.7733	-119.05	-6872.2
16	1043.3	-1540.0	36.615	0.7733	-116.94	-6872.2
17	1520.2	-1539.9	36.011	0.7733	-114.84	-6872.3
18	1997.1	-1539.8	35.407	0.7733	-112.74	-6872.3
19	2474.1	-1539.6	34.803	0.7733	-110.63	-6872.4
20	940.24	-1545.3	37.157	0.7733	-118.92	-6900.4
21	1417.2	-1545.2	36.553	0.7733	-116.82	-6900.4
22	1894.1	-1545.0	35.950	0.7733	-114.72	-6900.5
23	2371.0	-1544.9	35.348	0.7733	-112.62	-6900.5
24	2848.0	-1544.8	34.745	0.7733	-110.51	-6900.6
25	937.60	-2131.2	21.696	0.5092	-51.805	-8253.5
26	1579.4	-2131.0	20.764	0.5092	-48.954	-8253.5
27	2221.3	-2130.8	19.832	0.5092	-46.103	-8253.4
28	2863.1	-2130.6	18.901	0.5092	-43.252	-8253.4
29	3505.0	-2130.4	17.970	0.5092	-40.402	-8253.3
30	1090.0	-2134.5	21.682	0.5092	-51.784	-8268.4
31	1731.8	-2134.3	20.751	0.5092	-48.934	-8268.4
32	2373.7	-2134.1	19.819	0.5092	-46.084	-8268.3
33	3015.5	-2133.9	18.889	0.5092	-43.234	-8268.3
34	3657.4	-2133.7	17.958	0.5092	-40.385	-8268.2
MINIMUM	249.01	-2134.5	17.958	0.5092	-332.50	-8268.4
Pile N.	7	30	34	25	7	30
MAXIMUM	3657.4	-889.29	81.751	0.7733	-40.385	-3017.1
Pile N.	34	14	7	1	34	7

PILE GROUP STRESS, KN/ M\*\*2

\*\*\*\*\*

1	8419.8
2	8395.3
3	8371.4
4	8347.6
5	8323.7
6	8299.8
7	8275.3
8	9278.3
9	9253.8
10	9230.0
11	9206.1
12	9182.2
13	9158.3
14	9133.8
15	4498.8
16	4657.4
17	4816.0
18	4974.6
19	5133.2
20	4641.0
21	4799.6
22	4958.2
23	5116.8
24	5275.4
25	5476.3
26	5690.0
27	5903.7
28	6117.5
29	6331.2
30	5536.4
31	5750.1
32	5963.8
33	6177.6
34	6391.3

MINIMUM	4498.8
Pile N.	15
MAXIMUM	9278.3
Pile N.	8

\* EFFECTS FOR LATERALLY LOADED PILE \*


\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR	DISPL. z-DIR	MOMENT z-DIR	MOMENT y-DIR	SHEAR y-DIR	SHEAR z-DIR	SOIL REACT y-DIR	SOIL REACT z-DIR	TOTAL STRESS	FLEX. RIG. z-DIR	FLEX. RIG. y-DIR
	M	M	KN- M	KN- M	KN	KN	KN/ M	KN/ M	KN/ M**2	KN- M**2	KN- M**2
1	-3.6890E-03	-3.5570E-06	-1083.0	-332.19	-892.88	-25.269	-202.44	-5.8139	197.23	1.1340E+07	4.9219E+07







<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>						COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>

ANGLE ROT. X, RAD      ANGLE ROT. Y, RAD      ANGLE ROT. Z, RAD  
 9.37360E-07            7.19718E-06            4.26004E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
*****	*****	*****	*****	*****	*****	*****
1	2.0673E-04	-3.0681E-03	1.7809E-04	9.3736E-07	7.1972E-06	4.2600E-05
2	1.8715E-04	-3.0656E-03	1.7809E-04	9.3736E-07	7.1972E-06	4.2600E-05
3	1.6808E-04	-3.0631E-03	1.7809E-04	9.3736E-07	7.1972E-06	4.2600E-05
4	1.4901E-04	-3.0606E-03	1.7809E-04	9.3736E-07	7.1972E-06	4.2600E-05
5	1.2994E-04	-3.0581E-03	1.7809E-04	9.3736E-07	7.1972E-06	4.2600E-05
6	1.1086E-04	-3.0557E-03	1.7809E-04	9.3736E-07	7.1972E-06	4.2600E-05
7	9.1288E-05	-3.0531E-03	1.7809E-04	9.3736E-07	7.1972E-06	4.2600E-05
8	8.1592E-04	-3.0681E-03	1.6468E-04	9.3736E-07	7.1972E-06	4.2600E-05
9	7.9634E-04	-3.0656E-03	1.6468E-04	9.3736E-07	7.1972E-06	4.2600E-05
10	7.7727E-04	-3.0631E-03	1.6468E-04	9.3736E-07	7.1972E-06	4.2600E-05
11	7.5820E-04	-3.0606E-03	1.6468E-04	9.3736E-07	7.1972E-06	4.2600E-05
12	7.3912E-04	-3.0581E-03	1.6468E-04	9.3736E-07	7.1972E-06	4.2600E-05
13	7.2005E-04	-3.0557E-03	1.6468E-04	9.3736E-07	7.1972E-06	4.2600E-05
14	7.0047E-04	-3.0531E-03	1.6468E-04	9.3736E-07	7.1972E-06	4.2600E-05
15	1.6484E-04	-3.0524E-03	1.7635E-04	9.3736E-07	7.1972E-06	4.2600E-05
16	2.7774E-04	-3.0524E-03	1.7387E-04	9.3736E-07	7.1972E-06	4.2600E-05
17	3.9063E-04	-3.0524E-03	1.7138E-04	9.3736E-07	7.1972E-06	4.2600E-05
18	5.0352E-04	-3.0524E-03	1.6890E-04	9.3736E-07	7.1972E-06	4.2600E-05
19	6.1641E-04	-3.0524E-03	1.6641E-04	9.3736E-07	7.1972E-06	4.2600E-05
20	2.9079E-04	-3.0688E-03	1.7635E-04	9.3736E-07	7.1972E-06	4.2600E-05
21	4.0369E-04	-3.0688E-03	1.7387E-04	9.3736E-07	7.1972E-06	4.2600E-05
22	5.1658E-04	-3.0688E-03	1.7138E-04	9.3736E-07	7.1972E-06	4.2600E-05
23	6.2947E-04	-3.0688E-03	1.6890E-04	9.3736E-07	7.1972E-06	4.2600E-05
24	7.4236E-04	-3.0688E-03	1.6641E-04	9.3736E-07	7.1972E-06	4.2600E-05
25	2.0875E-04	-2.4617E-03	7.5590E-05	9.3736E-07	7.1972E-06	4.2600E-05
26	3.2164E-04	-2.4617E-03	7.3106E-05	9.3736E-07	7.1972E-06	4.2600E-05
27	4.3453E-04	-2.4617E-03	7.0622E-05	9.3736E-07	7.1972E-06	4.2600E-05
28	5.4742E-04	-2.4617E-03	6.8138E-05	9.3736E-07	7.1972E-06	4.2600E-05
29	6.6031E-04	-2.4617E-03	6.5654E-05	9.3736E-07	7.1972E-06	4.2600E-05
30	2.4689E-04	-2.4667E-03	7.5590E-05	9.3736E-07	7.1972E-06	4.2600E-05
31	3.5978E-04	-2.4667E-03	7.3106E-05	9.3736E-07	7.1972E-06	4.2600E-05
32	4.7267E-04	-2.4667E-03	7.0622E-05	9.3736E-07	7.1972E-06	4.2600E-05
33	5.8557E-04	-2.4667E-03	6.8138E-05	9.3736E-07	7.1972E-06	4.2600E-05
34	6.9846E-04	-2.4667E-03	6.5654E-05	9.3736E-07	7.1972E-06	4.2600E-05
MINIMUM	9.1288E-05	-3.0688E-03	6.5654E-05	9.3736E-07	7.1972E-06	4.2600E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	8.1592E-04	-2.4617E-03	1.7809E-04	9.3736E-07	7.1972E-06	4.2600E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	606.92	-790.69	82.427	0.7615	-329.00	-2652.2
2	549.45	-790.22	82.450	0.7615	-329.07	-2650.3
3	493.46	-789.76	82.472	0.7615	-329.13	-2648.4
4	437.46	-789.30	82.495	0.7615	-329.20	-2646.5
5	381.47	-788.85	82.518	0.7615	-329.26	-2644.6
6	325.48	-788.39	82.540	0.7615	-329.33	-2642.8
7	268.00	-787.92	82.564	0.7615	-329.39	-2640.9
8	2395.4	-790.24	74.875	0.7615	-295.10	-2652.7
9	2337.9	-789.77	74.896	0.7615	-295.16	-2650.8
10	2281.9	-789.31	74.917	0.7615	-295.22	-2648.9
11	2225.9	-788.85	74.938	0.7615	-295.27	-2647.0
12	2169.9	-788.40	74.959	0.7615	-295.33	-2645.1
13	2113.9	-787.94	74.980	0.7615	-295.39	-2643.3
14	2056.5	-787.47	75.001	0.7615	-295.45	-2641.3
15	483.95	-1371.2	37.658	0.7615	-118.18	-6068.2
16	815.38	-1371.1	37.034	0.7615	-116.03	-6068.2
17	1146.8	-1371.0	36.410	0.7615	-113.89	-6068.3
18	1478.2	-1370.9	35.787	0.7615	-111.74	-6068.3
19	1809.7	-1370.9	35.163	0.7615	-109.60	-6068.4
20	853.72	-1376.5	37.586	0.7615	-118.03	-6096.9
21	1185.1	-1376.4	36.963	0.7615	-115.89	-6097.0
22	1516.6	-1376.4	36.340	0.7615	-113.74	-6097.0
23	1848.0	-1376.3	35.718	0.7615	-111.60	-6097.0
24	2179.4	-1376.2	35.096	0.7615	-109.46	-6097.1
25	824.76	-1947.5	20.381	0.5014	-46.836	-7543.1
26	1270.8	-1947.4	19.435	0.5014	-43.974	-7543.1
27	1716.8	-1947.3	18.488	0.5014	-41.112	-7543.0
28	2162.9	-1947.2	17.543	0.5014	-38.250	-7543.0
29	2608.9	-1947.1	16.597	0.5014	-35.388	-7543.0
30	975.48	-1950.8	20.367	0.5014	-46.814	-7558.0
31	1421.5	-1950.7	19.421	0.5014	-43.953	-7558.0
32	1867.5	-1950.6	18.475	0.5014	-41.092	-7558.0
33	2313.6	-1950.5	17.530	0.5014	-38.231	-7557.9

<b>APPALTATORE:</b> Consorzio <b>Soci</b>   					<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   										
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>										

34	2759.6	-1950.4	16.585	0.5014	-35.370	-7557.9
MINIMUM	268.00	-1950.8	16.585	0.5014	-329.39	-7558.0
Pile N.	7	30	34	25	7	30
MAXIMUM	2759.6	-787.47	82.564	0.7615	-35.370	-2640.9
Pile N.	34	14	7	1	34	7

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
1	2.0673E-04	-3.0681E-03	1.7809E-04	9.3736E-07	7.1972E-06	4.2600E-05
2	1.8715E-04	-3.0656E-03	1.7809E-04	9.3736E-07	7.1972E-06	4.2600E-05
3	1.6808E-04	-3.0631E-03	1.7809E-04	9.3736E-07	7.1972E-06	4.2600E-05
4	1.4901E-04	-3.0606E-03	1.7809E-04	9.3736E-07	7.1972E-06	4.2600E-05
5	1.2994E-04	-3.0581E-03	1.7809E-04	9.3736E-07	7.1972E-06	4.2600E-05
6	1.1086E-04	-3.0557E-03	1.7809E-04	9.3736E-07	7.1972E-06	4.2600E-05
7	9.1288E-05	-3.0531E-03	1.7809E-04	9.3736E-07	7.1972E-06	4.2600E-05
8	8.1592E-05	-3.0681E-03	1.6468E-04	9.3736E-07	7.1972E-06	4.2600E-05
9	7.9634E-04	-3.0656E-03	1.6468E-04	9.3736E-07	7.1972E-06	4.2600E-05
10	7.7727E-04	-3.0631E-03	1.6468E-04	9.3736E-07	7.1972E-06	4.2600E-05
11	7.5820E-04	-3.0606E-03	1.6468E-04	9.3736E-07	7.1972E-06	4.2600E-05
12	7.3912E-04	-3.0581E-03	1.6468E-04	9.3736E-07	7.1972E-06	4.2600E-05
13	7.2005E-04	-3.0557E-03	1.6468E-04	9.3736E-07	7.1972E-06	4.2600E-05
14	7.0047E-04	-3.0531E-03	1.6468E-04	9.3736E-07	7.1972E-06	4.2600E-05
15	1.6484E-04	-3.0524E-03	1.7635E-04	9.3736E-07	7.1972E-06	4.2600E-05
16	2.7774E-04	-3.0524E-03	1.7387E-04	9.3736E-07	7.1972E-06	4.2600E-05
17	3.9063E-04	-3.0524E-03	1.7138E-04	9.3736E-07	7.1972E-06	4.2600E-05
18	5.0352E-04	-3.0524E-03	1.6890E-04	9.3736E-07	7.1972E-06	4.2600E-05
19	6.1641E-04	-3.0524E-03	1.6641E-04	9.3736E-07	7.1972E-06	4.2600E-05
20	2.9079E-04	-3.0688E-03	1.7635E-04	9.3736E-07	7.1972E-06	4.2600E-05
21	4.0369E-04	-3.0688E-03	1.7387E-04	9.3736E-07	7.1972E-06	4.2600E-05
22	5.1658E-04	-3.0688E-03	1.7138E-04	9.3736E-07	7.1972E-06	4.2600E-05
23	6.2947E-04	-3.0688E-03	1.6890E-04	9.3736E-07	7.1972E-06	4.2600E-05
24	7.4236E-04	-3.0688E-03	1.6641E-04	9.3736E-07	7.1972E-06	4.2600E-05
25	2.0875E-04	-2.4617E-03	7.5590E-05	9.3736E-07	7.1972E-06	4.2600E-05
26	3.2164E-04	-2.4617E-03	7.3106E-05	9.3736E-07	7.1972E-06	4.2600E-05
27	4.3453E-04	-2.4617E-03	7.0622E-05	9.3736E-07	7.1972E-06	4.2600E-05
28	5.4742E-04	-2.4617E-03	6.8138E-05	9.3736E-07	7.1972E-06	4.2600E-05
29	6.6031E-04	-2.4617E-03	6.5654E-05	9.3736E-07	7.1972E-06	4.2600E-05
30	2.4689E-04	-2.4667E-03	7.5590E-05	9.3736E-07	7.1972E-06	4.2600E-05
31	3.5978E-04	-2.4667E-03	7.3106E-05	9.3736E-07	7.1972E-06	4.2600E-05
32	4.7267E-04	-2.4667E-03	7.0622E-05	9.3736E-07	7.1972E-06	4.2600E-05
33	5.8557E-04	-2.4667E-03	6.8138E-05	9.3736E-07	7.1972E-06	4.2600E-05
34	6.9846E-04	-2.4667E-03	6.5654E-05	9.3736E-07	7.1972E-06	4.2600E-05
MINIMUM	9.1288E-05	-3.0688E-03	6.5654E-05	9.3736E-07	7.1972E-06	4.2600E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	8.1592E-04	-2.4617E-03	1.7809E-04	9.3736E-07	7.1972E-06	4.2600E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	606.92	-790.69	82.427	0.7615	-329.00	-2652.2
2	549.45	-790.22	82.450	0.7615	-329.07	-2650.3
3	493.46	-789.76	82.472	0.7615	-329.13	-2648.4
4	437.46	-789.30	82.495	0.7615	-329.20	-2646.5
5	381.47	-788.85	82.518	0.7615	-329.26	-2644.6
6	325.48	-788.39	82.540	0.7615	-329.33	-2642.8
7	268.00	-787.92	82.564	0.7615	-329.39	-2640.9
8	2395.4	-790.24	74.875	0.7615	-295.10	-2652.7
9	2337.9	-789.77	74.896	0.7615	-295.16	-2650.8
10	2281.9	-789.31	74.917	0.7615	-295.22	-2648.9
11	2225.9	-788.85	74.938	0.7615	-295.27	-2647.0
12	2169.9	-788.40	74.959	0.7615	-295.33	-2645.1
13	2113.9	-787.94	74.980	0.7615	-295.39	-2643.3
14	2056.5	-787.47	75.001	0.7615	-295.45	-2641.3
15	483.95	-1371.2	37.658	0.7615	-118.18	-6068.2
16	815.38	-1371.1	37.034	0.7615	-116.03	-6068.2
17	1146.8	-1371.0	36.410	0.7615	-113.89	-6068.3
18	1478.2	-1370.9	35.787	0.7615	-111.74	-6068.3
19	1809.7	-1370.9	35.163	0.7615	-109.60	-6068.4
20	853.72	-1376.5	37.586	0.7615	-118.03	-6096.9
21	1185.1	-1376.4	36.963	0.7615	-115.89	-6097.0
22	1516.6	-1376.4	36.340	0.7615	-113.74	-6097.0
23	1848.0	-1376.3	35.718	0.7615	-111.60	-6097.0
24	2179.4	-1376.2	35.096	0.7615	-109.46	-6097.1
25	824.76	-1947.5	20.381	0.5014	-46.836	-7543.1
26	1270.8	-1947.4	19.435	0.5014	-43.974	-7543.1
27	1716.8	-1947.3	18.488	0.5014	-41.112	-7543.0
28	2162.9	-1947.2	17.543	0.5014	-38.250	-7543.0
29	2608.9	-1947.1	16.597	0.5014	-35.388	-7543.0

APPALTATORE: Consorzio <b>HirpiniaAV</b> Soci <b>salini impregilo</b> <b>ASTALDI</b>		<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
PROGETTAZIONE: Mandataria <b>ROKSOJL</b> Mandanti <b>NETENGINEERING</b> <b>Alpina</b>						
PROGETTO ESECUTIVO <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>						
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	
IF1N	01 E ZZ	RG	MD0000 001	B	163 di 260	

30	975.48	-1950.8	20.367	0.5014	-46.814	-7558.0
31	1421.5	-1950.7	19.421	0.5014	-43.953	-7558.0
32	1867.5	-1950.6	18.475	0.5014	-41.092	-7558.0
33	2313.6	-1950.5	17.530	0.5014	-38.231	-7557.9
34	2759.6	-1950.4	16.585	0.5014	-35.370	-7557.9
MINIMUM	268.00	-1950.8	16.585	0.5014	-329.39	-7558.0
Pile N.	7	30	34	25	7	30
MAXIMUM	2759.6	-787.47	82.564	0.7615	-35.370	-2640.9
Pile N.	34	14	7	1	34	7

PILE GROUP STRESS, KN/ M\*\*2

1	7404.5
2	7380.1
3	7356.4
4	7332.6
5	7308.9
6	7285.1
7	7260.7
8	8001.4
9	7977.0
10	7953.3
11	7929.5
12	7905.8
13	7882.0
14	7857.7
15	3969.9
16	4080.0
17	4190.0
18	4300.0
19	4410.1
20	4111.1
21	4221.1
22	4331.1
23	4441.2
24	4551.2
25	4994.1
26	5142.6
27	5291.1
28	5439.6
29	5588.0
30	5053.7
31	5202.2
32	5350.6
33	5499.1
34	5647.6

MINIMUM	3969.9
Pile N.	15
MAXIMUM	8001.4
Pile N.	8

\* EFFECTS FOR LATERALLY LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR	DISPL. z-DIR	MOMENT y-DIR	MOMENT z-DIR	SHEAR y-DIR	SHEAR z-DIR	SOIL REACT y-DIR	SOIL REACT z-DIR	TOTAL STRESS	FLEX. RIG. z-DIR	FLEX. RIG. y-DIR
	M	M	KN- M	KN- M	KN	KN	KN/ M	KN/ M	KN/ M**2	KN- M**2	KN- M**2
1	-3.0681E-03	-3.4433E-06	-936.02	-329.00	-790.73	-25.460	-182.51	-5.9348	202.31	1.1340E+07	4.9219E+07
x( M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
2	-3.0656E-03	-3.4438E-06	-935.38	-329.07	-790.25	-25.467	-182.42	-5.9338	183.15	1.1340E+07	4.9219E+07
x( M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
3	-3.0631E-03	-3.4443E-06	-934.75	-329.13	-789.79	-25.474	-182.33	-5.9327	164.49	1.1340E+07	4.9219E+07
x( M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
4	-3.0606E-03	-3.4449E-06	-934.12	-329.20	-789.33	-25.481	-182.24	-5.9317	145.82	1.1340E+07	4.9219E+07
x( M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
5	-3.0581E-03	-3.4454E-06	-933.49	-329.26	-788.87	-25.488	-182.15	-5.9307	127.16	1.1340E+07	4.9219E+07
x( M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
6	-3.0557E-03	-3.4459E-06	-932.86	-329.33	-788.41	-25.495	-182.06	-5.9296	108.49	1.1340E+07	4.9219E+07
x( M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
7	-3.0531E-03	-3.4464E-06	-932.21	-329.39	-787.93	-25.502	-181.97	-5.9286	89.335	1.1340E+07	4.9219E+07
x( M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
8	-3.0681E-03	-3.2009E-06	-936.79	-295.10	-790.38	-23.501	-182.52	-5.4543	798.46	1.1340E+07	4.9219E+07
x( M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
9	-3.0656E-03	-3.2014E-06	-936.14	-295.16	-789.91	-23.507	-182.43	-5.4533	779.30	1.1340E+07	4.9219E+07
x( M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
10	-3.0631E-03	-3.2018E-06	-935.51	-295.22	-789.45	-23.513	-182.34	-5.4524	760.64	1.1340E+07	4.9219E+07
x( M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
11	-3.0606E-03	-3.2023E-06	-934.88	-295.27	-788.98	-23.520	-182.25	-5.4514	741.97	1.1340E+07	4.9219E+07
x( M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
12	-3.0581E-03	-3.2028E-06	-934.25	-295.33	-788.52	-23.526	-182.16	-5.4504	723.31	1.1340E+07	4.9219E+07
x( M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
13	-3.0557E-03	-3.2033E-06	-933.62	-295.39	-788.06	-23.533	-182.07	-5.4494	704.64	1.1340E+07	4.9219E+07
x( M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
14	-3.0531E-03	-3.2038E-06	-932.98	-295.45	-787.59	-23.539	-181.97	-5.4484	685.49	1.1340E+07	4.9219E+07



APPALTATORE: Consorzio <b>HirpiniaAV</b> Soci <b>salini impregilo</b> <b>ASTALDI</b>		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
PROGETTAZIONE: Mandataria <b>ROKSOJL</b> Mandanti <b>NETENGINEERING</b> <b>Alpina</b>						
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B						
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	
IF1N	01 E ZZ	RG	MD0000 001	B	165 di 260	

x( M)	16.500	0.0000	0.0000	7.0000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
20	5.7486E-05	1.7635E-04	6096.9	45.350	313.94	37.588	109.56	8.8122	4111.1	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
21	5.7499E-05	1.7387E-04	6097.0	44.705	313.98	36.966	109.57	8.6735	4221.1	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
22	5.7512E-05	1.7138E-04	6097.0	44.061	314.01	36.344	109.57	8.5349	4331.1	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
23	5.7525E-05	1.6890E-04	6097.0	43.416	314.04	35.722	109.58	8.3962	4441.2	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
24	5.7538E-05	1.6641E-04	6097.1	42.771	314.07	35.101	109.58	8.2575	4551.2	4.9219E+07	1.1340E+07
x( M)	16.500	0.0000	0.0000	7.0000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
25	4.0622E-05	7.5591E-05	7543.1	28.624	966.27	20.382	263.57	11.902	4994.1	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
26	4.0624E-05	7.3106E-05	7543.1	27.468	966.31	19.435	263.58	11.332	5142.6	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
27	4.0626E-05	7.0622E-05	7543.0	26.311	966.36	18.490	263.59	10.762	5291.1	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
28	4.0628E-05	6.8138E-05	7543.0	25.155	966.40	17.544	263.61	10.193	5439.6	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
29	4.0631E-05	6.5654E-05	7543.0	23.998	966.44	16.598	263.62	9.6229	5588.0	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
30	4.0696E-05	7.5591E-05	7558.0	28.621	968.09	20.367	264.09	11.897	5053.7	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
31	4.0698E-05	7.3106E-05	7558.0	27.465	968.14	19.422	264.10	11.328	5202.2	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
32	4.0700E-05	7.0622E-05	7558.0	26.309	968.18	18.476	264.11	10.758	5350.6	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
33	4.0702E-05	6.8138E-05	7557.9	25.153	968.23	17.531	264.12	10.188	5499.1	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
34	4.0705E-05	6.5654E-05	7557.9	23.996	968.27	16.586	264.13	9.6189	5647.6	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
Max.	6.1718E-05	1.7809E-04	7558.0	152.38	968.27	82.564	264.13	19.101	8001.4	4.9219E+07	4.9219E+07
Pile N.	8	1	30	7	34	7	34	7	8	15	1

LOAD CASE : 8  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
59472.2	-49223.9	1124.17
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
525.788	6212.90	-3.01526E+05


\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
5.40806E-04	-3.68903E-03	1.10260E-04
ANGLE ROT. X, RAD	ANGLE ROT. Y, RAD	ANGLE ROT. Z, RAD
6.18711E-07	3.52160E-06	6.19965E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
*****	*****	*****	*****	*****	*****	*****
1	1.2577E-04	-3.6940E-03	1.1468E-04	6.1871E-07	3.5216E-06	6.1997E-05
2	1.1620E-04	-3.6923E-03	1.1468E-04	6.1871E-07	3.5216E-06	6.1997E-05
3	1.0686E-04	-3.6907E-03	1.1468E-04	6.1871E-07	3.5216E-06	6.1997E-05
4	9.7531E-05	-3.6890E-03	1.1468E-04	6.1871E-07	3.5216E-06	6.1997E-05
5	8.8199E-05	-3.6874E-03	1.1468E-04	6.1871E-07	3.5216E-06	6.1997E-05
6	7.8866E-05	-3.6857E-03	1.1468E-04	6.1871E-07	3.5216E-06	6.1997E-05
7	6.9288E-05	-3.6841E-03	1.1468E-04	6.1871E-07	3.5216E-06	6.1997E-05
8	1.0123E-03	-3.6940E-03	1.0584E-04	6.1871E-07	3.5216E-06	6.1997E-05
9	1.0027E-03	-3.6923E-03	1.0584E-04	6.1871E-07	3.5216E-06	6.1997E-05
10	9.9341E-04	-3.6907E-03	1.0584E-04	6.1871E-07	3.5216E-06	6.1997E-05
11	9.8408E-04	-3.6890E-03	1.0584E-04	6.1871E-07	3.5216E-06	6.1997E-05
12	9.7475E-04	-3.6874E-03	1.0584E-04	6.1871E-07	3.5216E-06	6.1997E-05
13	9.6542E-04	-3.6857E-03	1.0584E-04	6.1871E-07	3.5216E-06	6.1997E-05
14	9.5584E-04	-3.6841E-03	1.0584E-04	6.1871E-07	3.5216E-06	6.1997E-05
15	1.8141E-04	-3.6836E-03	1.1354E-04	6.1871E-07	3.5216E-06	6.1997E-05

<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>						COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>

16	3.4570E-04	-3.6836E-03	1.1190E-04	6.1871E-07	3.5216E-06	6.1997E-05
17	5.0999E-04	-3.6836E-03	1.1026E-04	6.1871E-07	3.5216E-06	6.1997E-05
18	6.7428E-04	-3.6836E-03	1.0862E-04	6.1871E-07	3.5216E-06	6.1997E-05
19	8.3857E-04	-3.6836E-03	1.0698E-04	6.1871E-07	3.5216E-06	6.1997E-05
20	2.4304E-04	-3.6944E-03	1.1354E-04	6.1871E-07	3.5216E-06	6.1997E-05
21	4.0733E-04	-3.6944E-03	1.1190E-04	6.1871E-07	3.5216E-06	6.1997E-05
22	5.7162E-04	-3.6944E-03	1.1026E-04	6.1871E-07	3.5216E-06	6.1997E-05
23	7.3591E-04	-3.6944E-03	1.0862E-04	6.1871E-07	3.5216E-06	6.1997E-05
24	9.0020E-04	-3.6944E-03	1.0698E-04	6.1871E-07	3.5216E-06	6.1997E-05
25	2.0289E-04	-2.8194E-03	6.4236E-05	6.1871E-07	3.5216E-06	6.1997E-05
26	3.6718E-04	-2.8194E-03	6.2597E-05	6.1871E-07	3.5216E-06	6.1997E-05
27	5.3147E-04	-2.8194E-03	6.0957E-05	6.1871E-07	3.5216E-06	6.1997E-05
28	6.9576E-04	-2.8194E-03	5.9318E-05	6.1871E-07	3.5216E-06	6.1997E-05
29	8.6006E-04	-2.8194E-03	5.7678E-05	6.1871E-07	3.5216E-06	6.1997E-05
30	2.2156E-04	-2.8227E-03	6.4236E-05	6.1871E-07	3.5216E-06	6.1997E-05
31	3.8585E-04	-2.8227E-03	6.2597E-05	6.1871E-07	3.5216E-06	6.1997E-05
32	5.5014E-04	-2.8227E-03	6.0957E-05	6.1871E-07	3.5216E-06	6.1997E-05
33	7.1443E-04	-2.8227E-03	5.9318E-05	6.1871E-07	3.5216E-06	6.1997E-05
34	8.7872E-04	-2.8227E-03	5.7678E-05	6.1871E-07	3.5216E-06	6.1997E-05
MINIMUM	6.9288E-05	-3.6944E-03	5.7678E-05	6.1871E-07	3.5216E-06	6.1997E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.0123E-03	-2.8194E-03	1.1468E-04	6.1871E-07	3.5216E-06	6.1997E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
1	369.25	-893.80	53.068	0.5026	-222.92	-3030.3
2	341.13	-893.51	53.076	0.5026	-222.95	-3029.1
3	313.73	-893.22	53.084	0.5026	-222.97	-3027.9
4	286.33	-892.93	53.092	0.5026	-222.99	-3026.7
5	258.93	-892.65	53.100	0.5026	-223.01	-3025.5
6	231.54	-892.36	53.108	0.5026	-223.04	-3024.3
7	203.42	-892.06	53.116	0.5026	-223.06	-3023.1
8	2972.0	-892.82	48.295	0.5026	-201.15	-3030.5
9	2943.9	-892.52	48.303	0.5026	-201.17	-3029.2
10	2916.5	-892.23	48.310	0.5026	-201.19	-3028.0
11	2889.1	-891.95	48.317	0.5026	-201.21	-3026.8
12	2861.7	-891.66	48.325	0.5026	-201.23	-3025.7
13	2834.3	-891.37	48.332	0.5026	-201.26	-3024.5
14	2806.2	-891.08	48.339	0.5026	-201.28	-3023.2
15	532.59	-1542.5	23.845	0.5026	-78.255	-6880.7
16	1014.9	-1542.3	23.452	0.5026	-76.887	-6880.8
17	1497.2	-1542.2	23.060	0.5026	-75.520	-6880.8
18	1979.6	-1542.1	22.668	0.5026	-74.153	-6880.8
19	2461.9	-1541.9	22.276	0.5026	-72.786	-6880.9
20	713.51	-1545.8	23.820	0.5026	-78.202	-6899.1
21	1195.8	-1545.7	23.428	0.5026	-76.835	-6899.1
22	1678.2	-1545.6	23.036	0.5026	-75.469	-6899.1
23	2160.5	-1545.4	22.644	0.5026	-74.103	-6899.2
24	2642.8	-1545.3	22.253	0.5026	-72.736	-6899.2
25	801.63	-2128.4	19.600	0.3310	-53.104	-8236.7
26	1450.7	-2128.2	18.993	0.3310	-51.250	-8236.6
27	2099.9	-2128.0	18.386	0.3310	-49.395	-8236.6
28	2749.0	-2127.8	17.779	0.3310	-47.541	-8236.5
29	3398.1	-2127.6	17.173	0.3310	-45.687	-8236.5
30	875.37	-2130.5	19.593	0.3310	-53.093	-8246.4
31	1524.5	-2130.3	18.986	0.3310	-51.238	-8246.3
32	2173.6	-2130.1	18.379	0.3310	-49.384	-8246.3
33	2822.7	-2129.9	17.773	0.3310	-47.530	-8246.2
34	3471.8	-2129.7	17.166	0.3310	-45.676	-8246.2
MINIMUM	203.42	-2130.5	17.166	0.3310	-223.06	-8246.4
Pile N.	7	30	34	25	7	30
MAXIMUM	3471.8	-891.08	53.116	0.5026	-45.676	-3023.1
Pile N.	34	14	7	1	34	7

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
1	1.2577E-04	-3.6940E-03	1.1468E-04	6.1871E-07	3.5216E-06	6.1997E-05
2	1.1620E-04	-3.6923E-03	1.1468E-04	6.1871E-07	3.5216E-06	6.1997E-05
3	1.0686E-04	-3.6907E-03	1.1468E-04	6.1871E-07	3.5216E-06	6.1997E-05
4	9.7531E-05	-3.6890E-03	1.1468E-04	6.1871E-07	3.5216E-06	6.1997E-05
5	8.8199E-05	-3.6874E-03	1.1468E-04	6.1871E-07	3.5216E-06	6.1997E-05
6	7.8866E-05	-3.6857E-03	1.1468E-04	6.1871E-07	3.5216E-06	6.1997E-05
7	6.9288E-05	-3.6841E-03	1.1468E-04	6.1871E-07	3.5216E-06	6.1997E-05
8	1.0123E-03	-3.6940E-03	1.0584E-04	6.1871E-07	3.5216E-06	6.1997E-05
9	1.0027E-03	-3.6923E-03	1.0584E-04	6.1871E-07	3.5216E-06	6.1997E-05
10	9.9341E-04	-3.6907E-03	1.0584E-04	6.1871E-07	3.5216E-06	6.1997E-05
11	9.8408E-04	-3.6890E-03	1.0584E-04	6.1871E-07	3.5216E-06	6.1997E-05

## APPALTATORE:

Consorzio



Soci



## ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

## PROGETTAZIONE:

Mandatario



Mandanti



## PROGETTO ESECUTIVO

## RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 167 di 260
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12	9.7475E-04	-3.6874E-03	1.0584E-04	6.1871E-07	3.5216E-06	6.1997E-05
13	9.6542E-04	-3.6857E-03	1.0584E-04	6.1871E-07	3.5216E-06	6.1997E-05
14	9.5584E-04	-3.6841E-03	1.0584E-04	6.1871E-07	3.5216E-06	6.1997E-05
15	1.8141E-04	-3.6836E-03	1.1354E-04	6.1871E-07	3.5216E-06	6.1997E-05
16	3.4570E-04	-3.6836E-03	1.1190E-04	6.1871E-07	3.5216E-06	6.1997E-05
17	5.0999E-04	-3.6836E-03	1.1026E-04	6.1871E-07	3.5216E-06	6.1997E-05
18	6.7428E-04	-3.6836E-03	1.0862E-04	6.1871E-07	3.5216E-06	6.1997E-05
19	8.3857E-04	-3.6836E-03	1.0698E-04	6.1871E-07	3.5216E-06	6.1997E-05
20	2.4304E-04	-3.6944E-03	1.1354E-04	6.1871E-07	3.5216E-06	6.1997E-05
21	4.0733E-04	-3.6944E-03	1.1190E-04	6.1871E-07	3.5216E-06	6.1997E-05
22	5.7162E-04	-3.6944E-03	1.1026E-04	6.1871E-07	3.5216E-06	6.1997E-05
23	7.3591E-04	-3.6944E-03	1.0862E-04	6.1871E-07	3.5216E-06	6.1997E-05
24	9.0020E-04	-3.6944E-03	1.0698E-04	6.1871E-07	3.5216E-06	6.1997E-05
25	2.0289E-04	-2.8194E-03	6.4236E-05	6.1871E-07	3.5216E-06	6.1997E-05
26	3.6718E-04	-2.8194E-03	6.2597E-05	6.1871E-07	3.5216E-06	6.1997E-05
27	5.3147E-04	-2.8194E-03	6.0957E-05	6.1871E-07	3.5216E-06	6.1997E-05
28	6.9576E-04	-2.8194E-03	5.9318E-05	6.1871E-07	3.5216E-06	6.1997E-05
29	8.6006E-04	-2.8194E-03	5.7678E-05	6.1871E-07	3.5216E-06	6.1997E-05
30	2.2156E-04	-2.8227E-03	6.4236E-05	6.1871E-07	3.5216E-06	6.1997E-05
31	3.8585E-04	-2.8227E-03	6.2597E-05	6.1871E-07	3.5216E-06	6.1997E-05
32	5.5014E-04	-2.8227E-03	6.0957E-05	6.1871E-07	3.5216E-06	6.1997E-05
33	7.1443E-04	-2.8227E-03	5.9318E-05	6.1871E-07	3.5216E-06	6.1997E-05
34	8.7872E-04	-2.8227E-03	5.7678E-05	6.1871E-07	3.5216E-06	6.1997E-05
MINIMUM	6.9288E-05	-3.6944E-03	5.7678E-05	6.1871E-07	3.5216E-06	6.1997E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.0123E-03	-2.8194E-03	1.1468E-04	6.1871E-07	3.5216E-06	6.1997E-05
Pile N.	8	25	1	1	1	1

## \* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
1	369.25	-893.80	53.068	0.5026	-222.92	-3030.3
2	341.13	-893.51	53.076	0.5026	-222.95	-3029.1
3	313.73	-893.22	53.084	0.5026	-222.97	-3027.9
4	286.33	-892.93	53.092	0.5026	-222.99	-3026.7
5	258.93	-892.65	53.100	0.5026	-223.01	-3025.5
6	231.54	-892.36	53.108	0.5026	-223.04	-3024.3
7	203.42	-892.06	53.116	0.5026	-223.06	-3023.1
8	2972.0	-892.82	48.295	0.5026	-201.15	-3030.5
9	2943.9	-892.52	48.303	0.5026	-201.17	-3029.2
10	2916.5	-892.23	48.310	0.5026	-201.19	-3028.0
11	2889.1	-891.95	48.317	0.5026	-201.21	-3026.8
12	2861.7	-891.66	48.325	0.5026	-201.23	-3025.7
13	2834.3	-891.37	48.332	0.5026	-201.26	-3024.5
14	2806.2	-891.08	48.339	0.5026	-201.28	-3023.2
15	532.59	-1542.5	23.845	0.5026	-78.255	-6880.7
16	1014.9	-1542.3	23.452	0.5026	-76.887	-6880.8
17	1497.2	-1542.2	23.060	0.5026	-75.520	-6880.8
18	1979.6	-1542.1	22.668	0.5026	-74.153	-6880.8
19	2461.9	-1541.9	22.276	0.5026	-72.786	-6880.9
20	713.51	-1545.8	23.820	0.5026	-78.202	-6899.1
21	1195.8	-1545.7	23.428	0.5026	-76.835	-6899.1
22	1678.2	-1545.6	23.036	0.5026	-75.469	-6899.1
23	2160.5	-1545.4	22.644	0.5026	-74.103	-6899.2
24	2642.8	-1545.3	22.253	0.5026	-72.736	-6899.2
25	801.63	-2128.4	19.600	0.3310	-53.104	-8236.7
26	1450.7	-2128.2	18.993	0.3310	-51.250	-8236.6
27	2099.9	-2128.0	18.386	0.3310	-49.395	-8236.6
28	2749.0	-2127.8	17.779	0.3310	-47.541	-8236.5
29	3398.1	-2127.6	17.173	0.3310	-45.687	-8236.5
30	875.37	-2130.5	19.593	0.3310	-53.093	-8246.4
31	1524.5	-2130.3	18.986	0.3310	-51.238	-8246.3
32	2173.6	-2130.1	18.379	0.3310	-49.384	-8246.3
33	2822.7	-2129.9	17.773	0.3310	-47.530	-8246.2
34	3471.8	-2129.7	17.166	0.3310	-45.676	-8246.2
MINIMUM	203.42	-2130.5	17.166	0.3310	-223.06	-8246.4
Pile N.	7	30	34	25	7	30
MAXIMUM	3471.8	-891.08	53.116	0.5026	-45.676	-3023.1
Pile N.	34	14	7	1	34	7

PILE GROUP	STRESS, KN/ M**2
1	8349.8
2	8337.1
3	8324.7
4	8312.4
5	8300.0
6	8287.6
7	8274.9
8	9217.7
9	9205.0
10	9192.6
11	9180.2
12	9167.8
13	9155.5







<b>APPALTATORE:</b> Consorzio <b>Soci</b>   		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>			
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	170 di 260

x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
33	4.5357E-05	5.9318E-05	8246.2	24.248	1082.6	17.775	296.32	10.692	6099.8	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
34	4.5361E-05	5.7678E-05	8246.2	23.491	1082.6	17.169	296.34	10.324	6316.0	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
Max.	7.5270E-05	1.1468E-04	8246.4	97.286	1082.6	53.116	296.34	13.052	9217.7	4.9219E+07	4.9219E+07
Pile N.	8	1	30	7	33	7	34	1	8	15	1

LOAD CASE : 9  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
63771.8	-44273.5	1650.61
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
832.073	18070.1	-3.28780E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
5.79904E-04	-3.01941E-03	1.71016E-04
ANGLE ROT. X, RAD	ANGLE ROT. Y, RAD	ANGLE ROT. Z, RAD
9.35150E-07	7.19090E-06	3.91265E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
*****	*****	*****	*****	*****	*****	*****
1	3.5782E-04	-3.0269E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
2	3.3826E-04	-3.0244E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
3	3.1921E-04	-3.0219E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
4	3.0015E-04	-3.0194E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
5	2.8109E-04	-3.0169E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
6	2.6204E-04	-3.0145E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
7	2.4248E-04	-3.0119E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
8	9.1733E-04	-3.0269E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
9	8.9777E-04	-3.0244E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
10	8.7871E-04	-3.0219E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
11	8.5966E-04	-3.0194E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
12	8.4060E-04	-3.0169E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
13	8.2155E-04	-3.0145E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
14	8.0199E-04	-3.0119E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
15	3.0961E-04	-3.0112E-03	1.7597E-04	9.3515E-07	7.1909E-06	3.9126E-05
16	4.1330E-04	-3.0112E-03	1.7349E-04	9.3515E-07	7.1909E-06	3.9126E-05
17	5.1698E-04	-3.0112E-03	1.7102E-04	9.3515E-07	7.1909E-06	3.9126E-05
18	6.2067E-04	-3.0112E-03	1.6854E-04	9.3515E-07	7.1909E-06	3.9126E-05
19	7.2435E-04	-3.0112E-03	1.6606E-04	9.3515E-07	7.1909E-06	3.9126E-05
20	4.3545E-04	-3.0276E-03	1.7597E-04	9.3515E-07	7.1909E-06	3.9126E-05
21	5.3914E-04	-3.0276E-03	1.7349E-04	9.3515E-07	7.1909E-06	3.9126E-05
22	6.4282E-04	-3.0276E-03	1.7102E-04	9.3515E-07	7.1909E-06	3.9126E-05
23	7.4651E-04	-3.0276E-03	1.6854E-04	9.3515E-07	7.1909E-06	3.9126E-05
24	8.5019E-04	-3.0276E-03	1.6606E-04	9.3515E-07	7.1909E-06	3.9126E-05
25	3.5348E-04	-2.4692E-03	7.5300E-05	9.3515E-07	7.1909E-06	3.9126E-05
26	4.5716E-04	-2.4692E-03	7.2821E-05	9.3515E-07	7.1909E-06	3.9126E-05
27	5.6085E-04	-2.4692E-03	7.0343E-05	9.3515E-07	7.1909E-06	3.9126E-05
28	6.6453E-04	-2.4692E-03	6.7865E-05	9.3515E-07	7.1909E-06	3.9126E-05
29	7.6822E-04	-2.4692E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
30	3.9159E-04	-2.4741E-03	7.5300E-05	9.3515E-07	7.1909E-06	3.9126E-05
31	4.9527E-04	-2.4741E-03	7.2821E-05	9.3515E-07	7.1909E-06	3.9126E-05
32	5.9896E-04	-2.4741E-03	7.0343E-05	9.3515E-07	7.1909E-06	3.9126E-05
33	7.0265E-04	-2.4741E-03	6.7865E-05	9.3515E-07	7.1909E-06	3.9126E-05
34	8.0633E-04	-2.4741E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
MINIMUM	2.4248E-04	-3.0276E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.1733E-04	-2.4692E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandatario

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B







COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	171 di 260

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	1050.5	-785.24	82.500	0.7597	-328.95	-2636.8
2	993.07	-784.77	82.523	0.7597	-329.01	-2634.9
3	937.13	-784.31	82.546	0.7597	-329.08	-2633.0
4	881.18	-783.85	82.569	0.7597	-329.14	-2631.2
5	825.24	-783.39	82.592	0.7597	-329.21	-2629.3
6	769.29	-782.93	82.615	0.7597	-329.27	-2627.4
7	711.87	-782.46	82.638	0.7597	-329.34	-2625.5
8	2693.1	-784.85	74.945	0.7597	-295.05	-2637.3
9	2635.7	-784.38	74.967	0.7597	-295.11	-2635.4
10	2579.7	-783.92	74.988	0.7597	-295.17	-2633.5
11	2523.8	-783.46	75.009	0.7597	-295.23	-2631.6
12	2467.8	-783.00	75.030	0.7597	-295.29	-2629.8
13	2411.9	-782.54	75.051	0.7597	-295.35	-2627.9
14	2354.5	-782.07	75.072	0.7597	-295.41	-2626.0
15	908.97	-1363.4	37.692	0.7597	-118.17	-6045.7
16	1213.4	-1363.3	37.069	0.7597	-116.02	-6045.7
17	1517.8	-1363.3	36.445	0.7597	-113.88	-6045.7
18	1822.2	-1363.2	35.821	0.7597	-111.73	-6045.8
19	2126.6	-1363.2	35.198	0.7597	-109.59	-6045.8
20	1278.4	-1368.8	37.620	0.7597	-118.02	-6074.4
21	1582.8	-1368.7	36.997	0.7597	-115.88	-6074.4
22	1887.2	-1368.7	36.374	0.7597	-113.73	-6074.4
23	2191.6	-1368.6	35.752	0.7597	-111.59	-6074.5
24	2496.0	-1368.5	35.130	0.7597	-109.45	-6074.5
25	1396.6	-1962.8	20.237	0.5003	-46.471	-7632.7
26	1806.3	-1962.7	19.295	0.5003	-43.619	-7632.7
27	2215.9	-1962.6	18.353	0.5003	-40.766	-7632.6
28	2625.6	-1962.5	17.411	0.5003	-37.914	-7632.6
29	3035.2	-1962.4	16.470	0.5003	-35.062	-7632.6
30	1547.2	-1966.1	20.223	0.5003	-46.450	-7647.6
31	1956.8	-1966.0	19.281	0.5003	-43.598	-7647.5
32	2366.5	-1965.9	18.340	0.5003	-40.747	-7647.5
33	2776.2	-1965.8	17.399	0.5003	-37.895	-7647.5
34	3185.8	-1965.7	16.458	0.5003	-35.044	-7647.5
MINIMUM	711.87	-1966.1	16.458	0.5003	-329.34	-7647.6
Pile N.	7	30	34	25	7	30
MAXIMUM	3185.8	-782.07	82.638	0.7597	-35.044	-2625.5
Pile N.	34	14	7	1	34	7

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
1	3.5782E-04	-3.0269E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
2	3.3826E-04	-3.0244E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
3	3.1921E-04	-3.0219E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
4	3.0015E-04	-3.0194E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
5	2.8109E-04	-3.0169E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
6	2.6204E-04	-3.0145E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
7	2.4248E-04	-3.0119E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
8	9.1733E-04	-3.0269E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
9	8.9777E-04	-3.0244E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
10	8.7871E-04	-3.0219E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
11	8.5966E-04	-3.0194E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
12	8.4060E-04	-3.0169E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
13	8.2155E-04	-3.0145E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
14	8.0199E-04	-3.0119E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
15	3.0961E-04	-3.0112E-03	1.7597E-04	9.3515E-07	7.1909E-06	3.9126E-05
16	4.1330E-04	-3.0112E-03	1.7349E-04	9.3515E-07	7.1909E-06	3.9126E-05
17	5.1698E-04	-3.0112E-03	1.7102E-04	9.3515E-07	7.1909E-06	3.9126E-05
18	6.2067E-04	-3.0112E-03	1.6854E-04	9.3515E-07	7.1909E-06	3.9126E-05
19	7.2435E-04	-3.0112E-03	1.6606E-04	9.3515E-07	7.1909E-06	3.9126E-05
20	4.3545E-04	-3.0276E-03	1.7597E-04	9.3515E-07	7.1909E-06	3.9126E-05
21	5.3914E-04	-3.0276E-03	1.7349E-04	9.3515E-07	7.1909E-06	3.9126E-05
22	6.4282E-04	-3.0276E-03	1.7102E-04	9.3515E-07	7.1909E-06	3.9126E-05
23	7.4651E-04	-3.0276E-03	1.6854E-04	9.3515E-07	7.1909E-06	3.9126E-05
24	8.5019E-04	-3.0276E-03	1.6606E-04	9.3515E-07	7.1909E-06	3.9126E-05
25	3.5348E-04	-2.4692E-03	7.5300E-05	9.3515E-07	7.1909E-06	3.9126E-05
26	4.5716E-04	-2.4692E-03	7.2821E-05	9.3515E-07	7.1909E-06	3.9126E-05
27	5.6085E-04	-2.4692E-03	7.0343E-05	9.3515E-07	7.1909E-06	3.9126E-05
28	6.6453E-04	-2.4692E-03	6.7865E-05	9.3515E-07	7.1909E-06	3.9126E-05
29	7.6822E-04	-2.4692E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
30	3.9159E-04	-2.4741E-03	7.5300E-05	9.3515E-07	7.1909E-06	3.9126E-05
31	4.9527E-04	-2.4741E-03	7.2821E-05	9.3515E-07	7.1909E-06	3.9126E-05
32	5.9896E-04	-2.4741E-03	7.0343E-05	9.3515E-07	7.1909E-06	3.9126E-05
33	7.0265E-04	-2.4741E-03	6.7865E-05	9.3515E-07	7.1909E-06	3.9126E-05
34	8.0633E-04	-2.4741E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
MINIMUM	2.4248E-04	-3.0276E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	7	20	29	1	1	1

<b>APPALTATORE:</b> Consorzio  Soci  	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>												
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  													
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">COMMESSA</td> <td style="width: 15%;">LOTTO</td> <td style="width: 15%;">CODIFICA</td> <td style="width: 15%;">DOCUMENTO</td> <td style="width: 15%;">REV.</td> <td style="width: 15%;">FOGLIO</td> </tr> <tr> <td>IF1N</td> <td>01 E ZZ</td> <td>RG</td> <td>MD0000 001</td> <td>B</td> <td>172 di 260</td> </tr> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF1N	01 E ZZ	RG	MD0000 001	B	172 di 260
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO								
IF1N	01 E ZZ	RG	MD0000 001	B	172 di 260								

MAXIMUM	9.1733E-04	-2.4692E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	1050.5	-785.24	82.500	0.7597	-328.95	-2636.8
2	993.07	-784.77	82.523	0.7597	-329.01	-2634.9
3	937.13	-784.31	82.546	0.7597	-329.08	-2633.0
4	881.18	-783.85	82.569	0.7597	-329.14	-2631.2
5	825.24	-783.39	82.592	0.7597	-329.21	-2629.3
6	769.29	-782.93	82.615	0.7597	-329.27	-2627.4
7	711.87	-782.46	82.638	0.7597	-329.34	-2625.5
8	2693.1	-784.85	74.945	0.7597	-295.05	-2637.3
9	2635.7	-784.38	74.967	0.7597	-295.11	-2635.4
10	2579.7	-783.92	74.988	0.7597	-295.17	-2633.5
11	2523.8	-783.46	75.009	0.7597	-295.23	-2631.6
12	2467.8	-783.00	75.030	0.7597	-295.29	-2629.8
13	2411.9	-782.54	75.051	0.7597	-295.35	-2627.9
14	2354.5	-782.07	75.072	0.7597	-295.41	-2626.0
15	908.97	-1363.4	37.692	0.7597	-118.17	-6045.7
16	1213.4	-1363.3	37.069	0.7597	-116.02	-6045.7
17	1517.8	-1363.3	36.445	0.7597	-113.88	-6045.7
18	1822.2	-1363.2	35.821	0.7597	-111.73	-6045.8
19	2126.6	-1363.2	35.198	0.7597	-109.59	-6045.8
20	1278.4	-1368.8	37.620	0.7597	-118.02	-6074.4
21	1582.8	-1368.7	36.997	0.7597	-115.88	-6074.4
22	1887.2	-1368.7	36.374	0.7597	-113.73	-6074.4
23	2191.6	-1368.6	35.752	0.7597	-111.59	-6074.5
24	2496.0	-1368.5	35.130	0.7597	-109.45	-6074.5
25	1396.6	-1962.8	20.237	0.5003	-46.471	-7632.7
26	1806.3	-1962.7	19.295	0.5003	-43.619	-7632.7
27	2215.9	-1962.6	18.353	0.5003	-40.766	-7632.6
28	2625.6	-1962.5	17.411	0.5003	-37.914	-7632.6
29	3035.2	-1962.4	16.470	0.5003	-35.062	-7632.6
30	1547.2	-1966.1	20.223	0.5003	-46.450	-7647.6
31	1956.8	-1966.0	19.281	0.5003	-43.598	-7647.5
32	2366.5	-1965.9	18.340	0.5003	-40.747	-7647.5
33	2776.2	-1965.8	17.399	0.5003	-37.895	-7647.5
34	3185.8	-1965.7	16.458	0.5003	-35.044	-7647.5
MINIMUM	711.87	-1966.1	16.458	0.5003	-329.34	-7647.6
Pile N.	7	30	34	25	7	30
MAXIMUM	3185.8	-782.07	82.638	0.7597	-35.044	-2625.5
Pile N.	34	14	7	1	34	7

PILE GROUP	STRESS, KN/ M**2
*****	*****
1	7510.6
2	7486.3
3	7462.5
4	7438.8
5	7415.1
6	7391.4
7	7367.0
8	8058.9
9	8034.6
10	8010.8
11	7987.1
12	7963.4
13	7939.7
14	7915.3
15	4097.6
16	4198.6
17	4299.6
18	4400.6
19	4501.6
20	4238.6
21	4339.6
22	4440.6
23	4541.6
24	4642.7
25	5240.7
26	5377.1
27	5513.4
28	5649.8
29	5786.2
30	5300.2
31	5436.6
32	5572.9
33	5709.3
34	5845.7
MINIMUM	4097.6
Pile N.	15
MAXIMUM	8058.9
Pile N.	8





<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>						COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>

MOMENT X , KN- M      MOMENT Y, KN- M      MOMENT Z, KN- M  
 410.415                      11119.4                      -2.84919E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL , M              HORIZONTAL Y, M              HORIZONTAL Z, M  
 4.36109E-04                      -3.68096E-03                      1.27221E-04

ANGLE ROT. X,RAD      ANGLE ROT. Y,RAD      ANGLE ROT. Z,RAD  
 4.84514E-07                      4.84826E-06                      6.47617E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
*****	*****	*****	*****	*****	*****	*****
1	1.1946E-05	-3.6848E-03	1.3069E-04	4.8451E-07	4.8483E-06	6.4762E-05
2	-1.2411E-06	-3.6835E-03	1.3069E-04	4.8451E-07	4.8483E-06	6.4762E-05
3	-1.4089E-05	-3.6822E-03	1.3069E-04	4.8451E-07	4.8483E-06	6.4762E-05
4	-2.6937E-05	-3.6810E-03	1.3069E-04	4.8451E-07	4.8483E-06	6.4762E-05
5	-3.9785E-05	-3.6797E-03	1.3069E-04	4.8451E-07	4.8483E-06	6.4762E-05
6	-5.2633E-05	-3.6784E-03	1.3069E-04	4.8451E-07	4.8483E-06	6.4762E-05
7	-6.5820E-05	-3.6771E-03	1.3069E-04	4.8451E-07	4.8483E-06	6.4762E-05
8	9.3804E-04	-3.6848E-03	1.2376E-04	4.8451E-07	4.8483E-06	6.4762E-05
9	9.2485E-04	-3.6835E-03	1.2376E-04	4.8451E-07	4.8483E-06	6.4762E-05
10	9.1200E-04	-3.6822E-03	1.2376E-04	4.8451E-07	4.8483E-06	6.4762E-05
11	8.9916E-04	-3.6810E-03	1.2376E-04	4.8451E-07	4.8483E-06	6.4762E-05
12	8.8631E-04	-3.6797E-03	1.2376E-04	4.8451E-07	4.8483E-06	6.4762E-05
13	8.7346E-04	-3.6784E-03	1.2376E-04	4.8451E-07	4.8483E-06	6.4762E-05
14	8.6027E-04	-3.6771E-03	1.2376E-04	4.8451E-07	4.8483E-06	6.4762E-05
15	5.0450E-05	-3.6767E-03	1.2979E-04	4.8451E-07	4.8483E-06	6.4762E-05
16	2.2207E-04	-3.6767E-03	1.2851E-04	4.8451E-07	4.8483E-06	6.4762E-05
17	3.9369E-04	-3.6767E-03	1.2722E-04	4.8451E-07	4.8483E-06	6.4762E-05
18	5.6531E-04	-3.6767E-03	1.2594E-04	4.8451E-07	4.8483E-06	6.4762E-05
19	7.3692E-04	-3.6767E-03	1.2465E-04	4.8451E-07	4.8483E-06	6.4762E-05
20	1.3530E-04	-3.6852E-03	1.2979E-04	4.8451E-07	4.8483E-06	6.4762E-05
21	3.0691E-04	-3.6852E-03	1.2851E-04	4.8451E-07	4.8483E-06	6.4762E-05
22	4.7853E-04	-3.6852E-03	1.2722E-04	4.8451E-07	4.8483E-06	6.4762E-05
23	6.5015E-04	-3.6852E-03	1.2594E-04	4.8451E-07	4.8483E-06	6.4762E-05
24	8.2177E-04	-3.6852E-03	1.2465E-04	4.8451E-07	4.8483E-06	6.4762E-05
25	8.0024E-05	-2.7730E-03	6.1914E-05	4.8451E-07	4.8483E-06	6.4762E-05
26	2.5164E-04	-2.7730E-03	6.0630E-05	4.8451E-07	4.8483E-06	6.4762E-05
27	4.2326E-04	-2.7730E-03	5.9346E-05	4.8451E-07	4.8483E-06	6.4762E-05
28	5.9488E-04	-2.7730E-03	5.8062E-05	4.8451E-07	4.8483E-06	6.4762E-05
29	7.6650E-04	-2.7730E-03	5.6778E-05	4.8451E-07	4.8483E-06	6.4762E-05
30	1.0572E-04	-2.7756E-03	6.1914E-05	4.8451E-07	4.8483E-06	6.4762E-05
31	2.7734E-04	-2.7756E-03	6.0630E-05	4.8451E-07	4.8483E-06	6.4762E-05
32	4.4896E-04	-2.7756E-03	5.9346E-05	4.8451E-07	4.8483E-06	6.4762E-05
33	6.2058E-04	-2.7756E-03	5.8062E-05	4.8451E-07	4.8483E-06	6.4762E-05
34	7.9219E-04	-2.7756E-03	5.6778E-05	4.8451E-07	4.8483E-06	6.4762E-05
MINIMUM	-6.5820E-05	-3.6852E-03	5.6778E-05	4.8451E-07	4.8483E-06	6.4762E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.3804E-04	-2.7730E-03	1.3069E-04	4.8451E-07	4.8483E-06	6.4762E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	35.072	-890.17	58.492	0.3936	-239.98	-3011.0
2	-3.6290	-889.95	58.499	0.3936	-240.00	-3010.1
3	-41.197	-889.73	58.506	0.3936	-240.02	-3009.1
4	-78.765	-889.51	58.513	0.3936	-240.04	-3008.2
5	-116.33	-889.29	58.520	0.3936	-240.06	-3007.3
6	-153.90	-889.07	58.527	0.3936	-240.08	-3006.3
7	-192.46	-888.85	58.535	0.3936	-240.10	-3005.4
8	2753.9	-889.14	54.744	0.3936	-222.94	-3011.2
9	2715.2	-888.91	54.751	0.3936	-222.96	-3010.2
10	2677.5	-888.69	54.758	0.3936	-222.98	-3009.3
11	2639.7	-888.47	54.764	0.3936	-223.00	-3008.4
12	2602.0	-888.26	54.771	0.3936	-223.02	-3007.4
13	2564.3	-888.04	54.778	0.3936	-223.04	-3006.5
14	2525.6	-887.81	54.785	0.3936	-223.06	-3005.5
15	148.11	-1535.7	26.608	0.3936	-85.687	-6830.1
16	651.95	-1535.6	26.298	0.3936	-84.616	-6830.1
17	1155.8	-1535.4	25.988	0.3936	-83.545	-6830.2
18	1659.6	-1535.3	25.678	0.3936	-82.474	-6830.2
19	2163.5	-1535.2	25.369	0.3936	-81.404	-6830.2
20	397.20	-1538.3	26.585	0.3936	-85.641	-6844.5
21	901.04	-1538.2	26.275	0.3936	-84.570	-6844.5
22	1404.9	-1538.0	25.965	0.3936	-83.500	-6844.5
23	1908.7	-1537.9	25.656	0.3936	-82.430	-6844.6

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTAZIONE:

Mandatario

Mandanti



PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 176 di 260
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24	2412.6	-1537.8	25.346	0.3936	-81.359	-6844.6
25	316.18	-2089.8	17.347	0.2592	-43.281	-8046.2
26	994.24	-2089.6	16.868	0.2592	-41.826	-8046.2
27	1672.3	-2089.4	16.390	0.2592	-40.370	-8046.1
28	2350.4	-2089.2	15.911	0.2592	-38.914	-8046.1
29	3028.4	-2089.0	15.433	0.2592	-37.459	-8046.0
30	417.70	-2091.5	17.342	0.2592	-43.273	-8053.8
31	1095.8	-2091.3	16.863	0.2592	-41.817	-8053.8
32	1773.8	-2091.1	16.384	0.2592	-40.362	-8053.7
33	2451.9	-2090.8	15.906	0.2592	-38.907	-8053.7
34	3130.0	-2090.6	15.427	0.2592	-37.451	-8053.6
MINIMUM	-192.46	-2091.5	15.427	0.2592	-240.10	-8053.8
Pile N.	7	30	34	25	7	30
MAXIMUM	3130.0	-887.81	58.535	0.3936	-37.451	-3005.4
Pile N.	34	14	7	1	34	7

THE PILE COORDINATE SYSTEM (LOCAL AXES)



\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
1	1.1946E-05	-3.6848E-03	1.3069E-04	4.8451E-07	4.8483E-06	6.4762E-05
2	-1.2411E-06	-3.6835E-03	1.3069E-04	4.8451E-07	4.8483E-06	6.4762E-05
3	-1.4089E-05	-3.6822E-03	1.3069E-04	4.8451E-07	4.8483E-06	6.4762E-05
4	-2.6937E-05	-3.6810E-03	1.3069E-04	4.8451E-07	4.8483E-06	6.4762E-05
5	-3.9785E-05	-3.6797E-03	1.3069E-04	4.8451E-07	4.8483E-06	6.4762E-05
6	-5.2633E-05	-3.6784E-03	1.3069E-04	4.8451E-07	4.8483E-06	6.4762E-05
7	-6.5820E-05	-3.6771E-03	1.3069E-04	4.8451E-07	4.8483E-06	6.4762E-05
8	9.3804E-04	-3.6848E-03	1.2376E-04	4.8451E-07	4.8483E-06	6.4762E-05
9	9.2485E-04	-3.6835E-03	1.2376E-04	4.8451E-07	4.8483E-06	6.4762E-05
10	9.1200E-04	-3.6822E-03	1.2376E-04	4.8451E-07	4.8483E-06	6.4762E-05
11	8.9916E-04	-3.6810E-03	1.2376E-04	4.8451E-07	4.8483E-06	6.4762E-05
12	8.8631E-04	-3.6797E-03	1.2376E-04	4.8451E-07	4.8483E-06	6.4762E-05
13	8.7346E-04	-3.6784E-03	1.2376E-04	4.8451E-07	4.8483E-06	6.4762E-05
14	8.6027E-04	-3.6771E-03	1.2376E-04	4.8451E-07	4.8483E-06	6.4762E-05
15	5.0450E-05	-3.6767E-03	1.2979E-04	4.8451E-07	4.8483E-06	6.4762E-05
16	2.2207E-04	-3.6767E-03	1.2851E-04	4.8451E-07	4.8483E-06	6.4762E-05
17	3.9369E-04	-3.6767E-03	1.2722E-04	4.8451E-07	4.8483E-06	6.4762E-05
18	5.6531E-04	-3.6767E-03	1.2594E-04	4.8451E-07	4.8483E-06	6.4762E-05
19	7.3692E-04	-3.6767E-03	1.2465E-04	4.8451E-07	4.8483E-06	6.4762E-05
20	1.3530E-04	-3.6852E-03	1.2979E-04	4.8451E-07	4.8483E-06	6.4762E-05
21	3.0691E-04	-3.6852E-03	1.2851E-04	4.8451E-07	4.8483E-06	6.4762E-05
22	4.7853E-04	-3.6852E-03	1.2722E-04	4.8451E-07	4.8483E-06	6.4762E-05
23	6.5015E-04	-3.6852E-03	1.2594E-04	4.8451E-07	4.8483E-06	6.4762E-05
24	8.2177E-04	-3.6852E-03	1.2465E-04	4.8451E-07	4.8483E-06	6.4762E-05
25	8.0024E-05	-2.7730E-03	6.1914E-05	4.8451E-07	4.8483E-06	6.4762E-05
26	2.5164E-04	-2.7730E-03	6.0630E-05	4.8451E-07	4.8483E-06	6.4762E-05
27	4.2326E-04	-2.7730E-03	5.9346E-05	4.8451E-07	4.8483E-06	6.4762E-05
28	5.9488E-04	-2.7730E-03	5.8062E-05	4.8451E-07	4.8483E-06	6.4762E-05
29	7.6650E-04	-2.7730E-03	5.6778E-05	4.8451E-07	4.8483E-06	6.4762E-05
30	1.0572E-04	-2.7756E-03	6.1914E-05	4.8451E-07	4.8483E-06	6.4762E-05
31	2.7734E-04	-2.7756E-03	6.0630E-05	4.8451E-07	4.8483E-06	6.4762E-05
32	4.4896E-04	-2.7756E-03	5.9346E-05	4.8451E-07	4.8483E-06	6.4762E-05
33	6.2058E-04	-2.7756E-03	5.8062E-05	4.8451E-07	4.8483E-06	6.4762E-05
34	7.9219E-04	-2.7756E-03	5.6778E-05	4.8451E-07	4.8483E-06	6.4762E-05
MINIMUM	-6.5820E-05	-3.6852E-03	5.6778E-05	4.8451E-07	4.8483E-06	6.4762E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.3804E-04	-2.7730E-03	1.3069E-04	4.8451E-07	4.8483E-06	6.4762E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
1	35.072	-890.17	58.492	0.3936	-239.98	-3011.0
2	-3.6290	-889.95	58.499	0.3936	-240.00	-3010.1
3	-41.197	-889.73	58.506	0.3936	-240.02	-3009.1
4	-78.765	-889.51	58.513	0.3936	-240.04	-3008.2
5	-116.33	-889.29	58.520	0.3936	-240.06	-3007.3
6	-153.90	-889.07	58.527	0.3936	-240.08	-3006.3
7	-192.46	-888.85	58.535	0.3936	-240.10	-3005.4
8	2753.9	-889.14	54.744	0.3936	-222.94	-3011.2
9	2715.2	-888.91	54.751	0.3936	-222.96	-3010.2
10	2677.5	-888.69	54.758	0.3936	-222.98	-3009.3
11	2639.7	-888.47	54.764	0.3936	-223.00	-3008.4
12	2602.0	-888.26	54.771	0.3936	-223.02	-3007.4
13	2564.3	-888.04	54.778	0.3936	-223.04	-3006.5
14	2525.6	-887.81	54.785	0.3936	-223.06	-3005.5
15	148.11	-1535.7	26.608	0.3936	-85.687	-6830.1
16	651.95	-1535.6	26.298	0.3936	-84.616	-6830.1
17	1155.8	-1535.4	25.988	0.3936	-83.545	-6830.2
18	1659.6	-1535.3	25.678	0.3936	-82.474	-6830.2
19	2163.5	-1535.2	25.369	0.3936	-81.404	-6830.2



<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>							COMMESSA <b>IF1N</b>

20	397.20	-1538.3	26.585	0.3936	-85.641	-6844.5
21	901.04	-1538.2	26.275	0.3936	-84.570	-6844.5
22	1404.9	-1538.0	25.965	0.3936	-83.500	-6844.5
23	1908.7	-1537.9	25.656	0.3936	-82.430	-6844.6
24	2412.6	-1537.8	25.346	0.3936	-81.359	-6844.6
25	316.18	-2089.8	17.347	0.2592	-43.281	-8046.2
26	994.24	-2089.6	16.868	0.2592	-41.826	-8046.2
27	1672.3	-2089.4	16.390	0.2592	-40.370	-8046.1
28	2350.4	-2089.2	15.911	0.2592	-38.914	-8046.1
29	3028.4	-2089.0	15.433	0.2592	-37.459	-8046.0
30	417.70	-2091.5	17.342	0.2592	-43.273	-8053.8
31	1095.8	-2091.3	16.863	0.2592	-41.817	-8053.8
32	1773.8	-2091.1	16.384	0.2592	-40.362	-8053.7
33	2451.9	-2090.8	15.906	0.2592	-38.907	-8053.7
34	3130.0	-2090.6	15.427	0.2592	-37.451	-8053.6
MINIMUM	-192.46	-2091.5	15.427	0.2592	-240.10	-8053.8
Pile N.	7	30	34	25	7	30
MAXIMUM	3130.0	-887.81	58.535	0.3936	-37.451	-3005.4
Pile N.	34	14	7	1	34	7

PILE GROUP STRESS, KN/ M\*\*2  
 \*\*\*\*\*

1	8186.4
2	8173.3
3	8183.3
4	8193.2
5	8203.2
6	8213.2
7	8223.4
8	9092.9
9	9077.4
10	9062.3
11	9047.2
12	9032.0
13	9016.9
14	9001.4
15	4327.3
16	4495.1
17	4662.9
18	4830.7
19	4998.6
20	4419.3
21	4587.1
22	4754.9
23	4922.7
24	5090.6
25	5138.9
26	5364.8
27	5590.7
28	5816.7
29	6042.6
30	5177.5
31	5403.4
32	5629.3
33	5855.2
34	6081.2

MINIMUM	4327.3
Pile N.	15
MAXIMUM	9092.9
Pile N.	8

\* EFFECTS FOR LATERALLY LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2	FLEX. RIG. z-DIR KN- M**2	FLEX. RIG. y-DIR KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	-3.6848E-03	-2.5337E-06	-1082.3	-239.98	-890.18	-18.044	-202.05	-4.1230	11.691	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	0.0000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
2	-3.6835E-03	-2.5338E-06	-1082.0	-240.00	-889.95	-18.046	-202.00	-4.1225	1.2097	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	0.0000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
3	-3.6822E-03	-2.5338E-06	-1081.6	-240.02	-889.73	-18.048	-201.96	-4.1220	13.732	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	0.0000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
4	-3.6810E-03	-2.5339E-06	-1081.3	-240.04	-889.51	-18.049	-201.92	-4.1216	26.255	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	0.0000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
5	-3.6797E-03	-2.5339E-06	-1081.0	-240.06	-889.28	-18.051	-201.87	-4.1211	38.778	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	0.0000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
6	-3.6784E-03	-2.5340E-06	-1080.7	-240.08	-889.06	-18.053	-201.83	-4.1206	51.300	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	0.0000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
7	-3.6771E-03	-2.5340E-06	-1080.4	-240.10	-888.83	-18.055	-201.79	-4.1202	64.154	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	0.0000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
8	-3.6848E-03	-2.4018E-06	-1083.1	-222.94	-889.32	-17.042	-202.02	-3.8861	917.97	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	0.0000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
9	-3.6835E-03	-2.4018E-06	-1082.8	-222.96	-889.09	-17.043	-201.98	-3.8856	905.06	1.1340E+07	4.9219E+07



APPALTATORE: Consorzio HirpiniaAV Soci salini impregio ASTALDI	ITINERARIO NAPOLI – BARI RADDOPPIO TRATTA APICE – ORSARA I LOTTO FUNZIONALE APICE – HIRPINIA					
PROGETTAZIONE: Mandataria Mandanti NETENGINEERING Alpina						
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B						
	COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 179 di 260

x( M)	12.500	0.0000	0.0000	9.5000	10.500	0.0000	12.500	10.000	0.0000	0.0000	0.0000
15	6.6883E-05	1.2979E-04	6830.1	32.272	355.67	26.608	139.99	6.1010	4327.3	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
16	6.6901E-05	1.2851E-04	6830.1	31.948	355.73	26.299	140.00	6.0340	4495.1	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
17	6.6919E-05	1.2722E-04	6830.2	31.624	355.78	25.990	140.01	5.9671	4662.9	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
18	6.6938E-05	1.2594E-04	6830.2	31.299	355.84	25.681	140.02	5.9001	4830.7	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
19	6.6956E-05	1.2465E-04	6830.2	30.975	355.89	25.373	140.03	5.8332	4998.6	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
20	6.7016E-05	1.2979E-04	6844.5	32.257	356.28	26.585	140.48	6.0947	4419.3	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
21	6.7034E-05	1.2851E-04	6844.5	31.933	356.33	26.277	140.49	6.0278	4587.1	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
22	6.7052E-05	1.2722E-04	6844.5	31.609	356.39	25.968	140.51	5.9609	4754.9	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
23	6.7071E-05	1.2594E-04	6844.6	31.285	356.44	25.659	140.52	5.8940	4922.7	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
24	6.7089E-05	1.2465E-04	6844.6	30.961	356.50	25.351	140.53	5.8271	5090.6	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.000	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
25	4.4610E-05	6.1914E-05	8046.2	24.285	1063.6	17.348	290.81	10.358	5138.9	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
26	4.4614E-05	6.0630E-05	8046.2	23.692	1063.7	16.869	290.83	10.067	5364.8	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
27	4.4618E-05	5.9346E-05	8046.1	23.098	1063.8	16.391	290.85	9.7770	5590.7	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
28	4.4622E-05	5.8062E-05	8046.1	22.505	1063.8	15.912	290.88	9.4867	5816.7	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
29	4.4626E-05	5.6778E-05	8046.0	21.911	1063.9	15.434	290.90	9.1964	6042.6	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
30	4.4646E-05	6.1914E-05	8053.8	24.284	1064.5	17.342	291.07	10.356	5177.5	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
31	4.4650E-05	6.0630E-05	8053.8	23.691	1064.6	16.864	291.09	10.065	5403.4	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
32	4.4654E-05	5.9346E-05	8053.7	23.097	1064.7	16.385	291.11	9.7749	5629.3	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
33	4.4658E-05	5.8062E-05	8053.7	22.504	1064.7	15.907	291.13	9.4846	5855.2	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
34	4.4662E-05	5.6778E-05	8053.6	21.910	1064.8	15.429	291.15	9.1944	6081.2	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
Max.	7.4946E-05	1.3069E-04	8053.8	109.48	1064.8	58.535	291.15	14.222	9092.9	4.9219E+07	4.9219E+07
Pile N.	8	1	30	7	34	7	34	1	8	15	1

LOAD CASE : 11  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
62043.3	-44641.8	1248.82
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
175.661	13912.8	-3.14269E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
5.64186E-04	-3.10694E-03	1.30423E-04
ANGLE ROT. X, RAD	ANGLE ROT. Y, RAD	ANGLE ROT. Z, RAD
2.01943E-07	5.50580E-06	4.40789E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
*****	*****	*****	*****	*****	*****	*****
1	2.9318E-04	-3.1086E-03	1.3187E-04	2.0194E-07	5.5058E-06	4.4079E-05
2	2.7820E-04	-3.1080E-03	1.3187E-04	2.0194E-07	5.5058E-06	4.4079E-05
3	2.6361E-04	-3.1075E-03	1.3187E-04	2.0194E-07	5.5058E-06	4.4079E-05
4	2.4902E-04	-3.1069E-03	1.3187E-04	2.0194E-07	5.5058E-06	4.4079E-05
5	2.3443E-04	-3.1064E-03	1.3187E-04	2.0194E-07	5.5058E-06	4.4079E-05

## APPALTATORE:

Consorzio



Soci



## ITINERARIO NAPOLI – BARI

## PROGETTAZIONE:

Mandatario



Mandanti

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

## PROGETTO ESECUTIVO

## RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	180 di 260

6	2.1984E-04	-3.1059E-03	1.3187E-04	2.0194E-07	5.5058E-06	4.4079E-05
7	2.0487E-04	-3.1053E-03	1.3187E-04	2.0194E-07	5.5058E-06	4.4079E-05
8	9.2351E-04	-3.1086E-03	1.2898E-04	2.0194E-07	5.5058E-06	4.4079E-05
9	9.0853E-04	-3.1080E-03	1.2898E-04	2.0194E-07	5.5058E-06	4.4079E-05
10	8.9394E-04	-3.1075E-03	1.2898E-04	2.0194E-07	5.5058E-06	4.4079E-05
11	8.7935E-04	-3.1069E-03	1.2898E-04	2.0194E-07	5.5058E-06	4.4079E-05
12	8.6476E-04	-3.1064E-03	1.2898E-04	2.0194E-07	5.5058E-06	4.4079E-05
13	8.5017E-04	-3.1059E-03	1.2898E-04	2.0194E-07	5.5058E-06	4.4079E-05
14	8.3519E-04	-3.1053E-03	1.2898E-04	2.0194E-07	5.5058E-06	4.4079E-05
15	2.8239E-04	-3.1052E-03	1.3149E-04	2.0194E-07	5.5058E-06	4.4079E-05
16	3.9920E-04	-3.1052E-03	1.3096E-04	2.0194E-07	5.5058E-06	4.4079E-05
17	5.1601E-04	-3.1052E-03	1.3042E-04	2.0194E-07	5.5058E-06	4.4079E-05
18	6.3282E-04	-3.1052E-03	1.2989E-04	2.0194E-07	5.5058E-06	4.4079E-05
19	7.4963E-04	-3.1052E-03	1.2935E-04	2.0194E-07	5.5058E-06	4.4079E-05
20	3.7874E-04	-3.1087E-03	1.3149E-04	2.0194E-07	5.5058E-06	4.4079E-05
21	4.9555E-04	-3.1087E-03	1.3096E-04	2.0194E-07	5.5058E-06	4.4079E-05
22	6.1236E-04	-3.1087E-03	1.3042E-04	2.0194E-07	5.5058E-06	4.4079E-05
23	7.2917E-04	-3.1087E-03	1.2989E-04	2.0194E-07	5.5058E-06	4.4079E-05
24	8.4598E-04	-3.1087E-03	1.2935E-04	2.0194E-07	5.5058E-06	4.4079E-05
25	3.1598E-04	-2.4893E-03	5.4412E-05	2.0194E-07	5.5058E-06	4.4079E-05
26	4.3279E-04	-2.4893E-03	5.3877E-05	2.0194E-07	5.5058E-06	4.4079E-05
27	5.4960E-04	-2.4893E-03	5.3342E-05	2.0194E-07	5.5058E-06	4.4079E-05
28	6.6641E-04	-2.4893E-03	5.2807E-05	2.0194E-07	5.5058E-06	4.4079E-05
29	7.8321E-04	-2.4893E-03	5.2271E-05	2.0194E-07	5.5058E-06	4.4079E-05
30	3.4516E-04	-2.4904E-03	5.4412E-05	2.0194E-07	5.5058E-06	4.4079E-05
31	4.6197E-04	-2.4904E-03	5.3877E-05	2.0194E-07	5.5058E-06	4.4079E-05
32	5.7878E-04	-2.4904E-03	5.3342E-05	2.0194E-07	5.5058E-06	4.4079E-05
33	6.9559E-04	-2.4904E-03	5.2807E-05	2.0194E-07	5.5058E-06	4.4079E-05
34	8.1240E-04	-2.4904E-03	5.2271E-05	2.0194E-07	5.5058E-06	4.4079E-05
MINIMUM	2.0487E-04	-3.1087E-03	5.2271E-05	2.0194E-07	5.5058E-06	4.4079E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.2351E-04	-2.4893E-03	1.3187E-04	2.0194E-07	5.5058E-06	4.4079E-05
Pile N.	8	25	1	1	1	1

## \* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
1	860.72	-797.66	60.461	0.1641	-240.36	-2677.3
2	816.75	-797.57	60.465	0.1641	-240.37	-2676.9
3	773.92	-797.48	60.469	0.1641	-240.38	-2676.5
4	731.08	-797.40	60.473	0.1641	-240.39	-2676.1
5	688.25	-797.31	60.477	0.1641	-240.40	-2675.7
6	645.41	-797.22	60.481	0.1641	-240.41	-2675.3
7	601.45	-797.13	60.485	0.1641	-240.42	-2674.9
8	2711.2	-797.05	58.822	0.1641	-233.07	-2677.4
9	2667.3	-796.96	58.826	0.1641	-233.08	-2677.0
10	2624.4	-796.88	58.830	0.1641	-233.09	-2676.6
11	2581.6	-796.79	58.834	0.1641	-233.10	-2676.2
12	2538.8	-796.70	58.838	0.1641	-233.11	-2675.8
13	2495.9	-796.61	58.841	0.1641	-233.12	-2675.4
14	2452.0	-796.52	58.845	0.1641	-233.12	-2675.0
15	829.05	-1386.2	27.813	0.1641	-87.135	-6139.8
16	1172.0	-1386.1	27.676	0.1641	-86.675	-6139.8
17	1514.9	-1386.0	27.539	0.1641	-86.215	-6139.8
18	1857.8	-1385.9	27.402	0.1641	-85.755	-6139.9
19	2200.8	-1385.8	27.265	0.1641	-85.295	-6139.9
20	1111.9	-1387.3	27.799	0.1641	-87.112	-6146.0
21	1454.8	-1387.2	27.662	0.1641	-86.652	-6146.0
22	1797.8	-1387.1	27.525	0.1641	-86.192	-6146.0
23	2140.7	-1387.0	27.388	0.1641	-85.732	-6146.0
24	2483.6	-1386.9	27.251	0.1641	-85.272	-6146.1
25	1248.4	-1961.6	14.248	0.1080	-31.818	-7597.4
26	1709.9	-1961.5	14.042	0.1080	-31.203	-7597.4
27	2171.5	-1961.4	13.837	0.1080	-30.589	-7597.3
28	2633.0	-1961.2	13.631	0.1080	-29.974	-7597.3
29	3094.5	-1961.1	13.426	0.1080	-29.359	-7597.2
30	1363.7	-1962.3	14.245	0.1080	-31.815	-7600.6
31	1825.2	-1962.2	14.040	0.1080	-31.200	-7600.6
32	2286.8	-1962.0	13.834	0.1080	-30.586	-7600.5
33	2748.3	-1961.9	13.629	0.1080	-29.971	-7600.5
34	3209.8	-1961.8	13.423	0.1080	-29.356	-7600.4
MINIMUM	601.45	-1962.3	13.423	0.1080	-240.42	-7600.6
Pile N.	7	30	34	25	7	30
MAXIMUM	3209.8	-796.52	60.485	0.1641	-29.356	-2674.9
Pile N.	34	14	7	1	34	7

## THE PILE COORDINATE SYSTEM (LOCAL AXES)

## \* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
1	2.9318E-04	-3.1086E-03	1.3187E-04	2.0194E-07	5.5058E-06	4.4079E-05

APPALTATORE: Consorzio <b>HirpiniaAV</b> Soci <b>salini impreglio</b> <b>ASTALDI</b>		<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
PROGETTAZIONE: Mandataria <b>ROKSOJL</b> Mandanti <b>NETENGINEERING</b> <b>Alpina</b>						
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B						
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	
IF1N	01 E ZZ	RG	MD0000 001	B	181 di 260	

2	2.7820E-04	-3.1080E-03	1.3187E-04	2.0194E-07	5.5058E-06	4.4079E-05
3	2.6361E-04	-3.1075E-03	1.3187E-04	2.0194E-07	5.5058E-06	4.4079E-05
4	2.4902E-04	-3.1069E-03	1.3187E-04	2.0194E-07	5.5058E-06	4.4079E-05
5	2.3443E-04	-3.1064E-03	1.3187E-04	2.0194E-07	5.5058E-06	4.4079E-05
6	2.1984E-04	-3.1059E-03	1.3187E-04	2.0194E-07	5.5058E-06	4.4079E-05
7	2.0487E-04	-3.1053E-03	1.3187E-04	2.0194E-07	5.5058E-06	4.4079E-05
8	9.2351E-04	-3.1086E-03	1.2898E-04	2.0194E-07	5.5058E-06	4.4079E-05
9	9.0853E-04	-3.1080E-03	1.2898E-04	2.0194E-07	5.5058E-06	4.4079E-05
10	8.9394E-04	-3.1075E-03	1.2898E-04	2.0194E-07	5.5058E-06	4.4079E-05
11	8.7935E-04	-3.1069E-03	1.2898E-04	2.0194E-07	5.5058E-06	4.4079E-05
12	8.6476E-04	-3.1064E-03	1.2898E-04	2.0194E-07	5.5058E-06	4.4079E-05
13	8.5017E-04	-3.1059E-03	1.2898E-04	2.0194E-07	5.5058E-06	4.4079E-05
14	8.3519E-04	-3.1053E-03	1.2898E-04	2.0194E-07	5.5058E-06	4.4079E-05
15	2.8239E-04	-3.1052E-03	1.3149E-04	2.0194E-07	5.5058E-06	4.4079E-05
16	3.9920E-04	-3.1052E-03	1.3096E-04	2.0194E-07	5.5058E-06	4.4079E-05
17	5.1601E-04	-3.1052E-03	1.3042E-04	2.0194E-07	5.5058E-06	4.4079E-05
18	6.3282E-04	-3.1052E-03	1.2989E-04	2.0194E-07	5.5058E-06	4.4079E-05
19	7.4963E-04	-3.1052E-03	1.2935E-04	2.0194E-07	5.5058E-06	4.4079E-05
20	3.7874E-04	-3.1087E-03	1.3149E-04	2.0194E-07	5.5058E-06	4.4079E-05
21	4.9555E-04	-3.1087E-03	1.3096E-04	2.0194E-07	5.5058E-06	4.4079E-05
22	6.1236E-04	-3.1087E-03	1.3042E-04	2.0194E-07	5.5058E-06	4.4079E-05
23	7.2917E-04	-3.1087E-03	1.2989E-04	2.0194E-07	5.5058E-06	4.4079E-05
24	8.4598E-04	-3.1087E-03	1.2935E-04	2.0194E-07	5.5058E-06	4.4079E-05
25	3.1598E-04	-2.4893E-03	5.4412E-05	2.0194E-07	5.5058E-06	4.4079E-05
26	4.3279E-04	-2.4893E-03	5.3877E-05	2.0194E-07	5.5058E-06	4.4079E-05
27	5.4960E-04	-2.4893E-03	5.3342E-05	2.0194E-07	5.5058E-06	4.4079E-05
28	6.6641E-04	-2.4893E-03	5.2807E-05	2.0194E-07	5.5058E-06	4.4079E-05
29	7.8321E-04	-2.4893E-03	5.2271E-05	2.0194E-07	5.5058E-06	4.4079E-05
30	3.4516E-04	-2.4904E-03	5.4412E-05	2.0194E-07	5.5058E-06	4.4079E-05
31	4.6197E-04	-2.4904E-03	5.3877E-05	2.0194E-07	5.5058E-06	4.4079E-05
32	5.7878E-04	-2.4904E-03	5.3342E-05	2.0194E-07	5.5058E-06	4.4079E-05
33	6.9559E-04	-2.4904E-03	5.2807E-05	2.0194E-07	5.5058E-06	4.4079E-05
34	8.1240E-04	-2.4904E-03	5.2271E-05	2.0194E-07	5.5058E-06	4.4079E-05
MINIMUM	2.0487E-04	-3.1087E-03	5.2271E-05	2.0194E-07	5.5058E-06	4.4079E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.2351E-04	-2.4893E-03	1.3187E-04	2.0194E-07	5.5058E-06	4.4079E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	860.72	-797.66	60.461	0.1641	-240.36	-2677.3
2	816.75	-797.57	60.465	0.1641	-240.37	-2676.9
3	773.92	-797.48	60.469	0.1641	-240.38	-2676.5
4	731.08	-797.40	60.473	0.1641	-240.39	-2676.1
5	688.25	-797.31	60.477	0.1641	-240.40	-2675.7
6	645.41	-797.22	60.481	0.1641	-240.41	-2675.3
7	601.45	-797.13	60.485	0.1641	-240.42	-2674.9
8	2711.2	-797.05	58.822	0.1641	-233.07	-2677.4
9	2667.3	-796.96	58.826	0.1641	-233.08	-2677.0
10	2624.4	-796.88	58.830	0.1641	-233.09	-2676.6
11	2581.6	-796.79	58.834	0.1641	-233.10	-2676.2
12	2538.8	-796.70	58.838	0.1641	-233.11	-2675.8
13	2495.9	-796.61	58.841	0.1641	-233.12	-2675.4
14	2452.0	-796.52	58.845	0.1641	-233.12	-2675.0
15	829.05	-1386.2	27.813	0.1641	-87.135	-6139.8
16	1172.0	-1386.1	27.676	0.1641	-86.675	-6139.8
17	1514.9	-1386.0	27.539	0.1641	-86.215	-6139.9
18	1857.8	-1385.9	27.402	0.1641	-85.755	-6139.9
19	2200.8	-1385.8	27.265	0.1641	-85.295	-6139.9
20	1111.9	-1387.3	27.799	0.1641	-87.112	-6146.0
21	1454.8	-1387.2	27.662	0.1641	-86.652	-6146.0
22	1797.8	-1387.1	27.525	0.1641	-86.192	-6146.0
23	2140.7	-1387.0	27.388	0.1641	-85.732	-6146.0
24	2483.6	-1386.9	27.251	0.1641	-85.272	-6146.1
25	1248.4	-1961.6	14.248	0.1080	-31.818	-7597.4
26	1709.9	-1961.5	14.042	0.1080	-31.203	-7597.4
27	2171.5	-1961.4	13.837	0.1080	-30.589	-7597.3
28	2633.0	-1961.2	13.631	0.1080	-29.974	-7597.3
29	3094.5	-1961.1	13.426	0.1080	-29.359	-7597.2
30	1363.7	-1962.3	14.245	0.1080	-31.815	-7600.6
31	1825.2	-1962.2	14.040	0.1080	-31.200	-7600.6
32	2286.8	-1962.0	13.834	0.1080	-30.586	-7600.5
33	2748.3	-1961.9	13.629	0.1080	-29.971	-7600.5
34	3209.8	-1961.8	13.423	0.1080	-29.356	-7600.4
MINIMUM	601.45	-1962.3	13.423	0.1080	-240.42	-7600.6
Pile N.	7	30	34	25	7	30
MAXIMUM	3209.8	-796.52	60.485	0.1641	-29.356	-2674.9
Pile N.	34	14	7	1	34	7

PILE GROUP	STRESS, KN/ M**2
*****	*****
1	7555.9
2	7540.1
3	7524.8

APPALTATORE: Consorzio  Soci  	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>												
PROGETTAZIONE: Mandataria  Mandanti  													
PROGETTO ESECUTIVO <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	<table border="0"> <tr> <td>COMMESSA</td> <td>LOTTO</td> <td>CODIFICA</td> <td>DOCUMENTO</td> <td>REV.</td> <td>FOGLIO</td> </tr> <tr> <td>IF1N</td> <td>01 E ZZ</td> <td>RG</td> <td>MD0000 001</td> <td>B</td> <td>182 di 260</td> </tr> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF1N	01 E ZZ	RG	MD0000 001	B	182 di 260
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO								
IF1N	01 E ZZ	RG	MD0000 001	B	182 di 260								

4	7509.4
5	7494.0
6	7478.7
7	7462.9
8	8172.9
9	8157.1
10	8141.7
11	8126.3
12	8111.0
13	8095.6
14	8079.8
15	4123.5
16	4237.8
17	4352.0
18	4466.2
19	4580.5
20	4221.7
21	4335.9
22	4450.1
23	4564.4
24	4678.6
25	5168.4
26	5322.2
27	5476.0
28	5629.8
29	5783.5
30	5208.8
31	5362.6
32	5516.4
33	5670.2
34	5824.0

MINIMUM 4123.5  
Pile N. 15  
MAXIMUM 8172.9  
Pile N. 8

\* EFFECTS FOR LATERALLY LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2	FLEX. RIG. z-DIR KN- M**2	FLEX. RIG. y-DIR KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	-3.1086E-03	-2.5737E-06	-946.81	-240.36	-797.71	-18.889	-183.90	-4.4038	286.91	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
2	-3.1080E-03	-2.5737E-06	-946.67	-240.37	-797.62	-18.890	-183.88	-4.4036	272.25	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
3	-3.1075E-03	-2.5738E-06	-946.53	-240.38	-797.53	-18.891	-183.86	-4.4034	257.97	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
4	-3.1069E-03	-2.5738E-06	-946.38	-240.39	-797.44	-18.892	-183.84	-4.4032	243.69	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
5	-3.1064E-03	-2.5739E-06	-946.24	-240.40	-797.35	-18.893	-183.82	-4.4030	229.42	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
6	-3.1059E-03	-2.5739E-06	-946.10	-240.41	-797.26	-18.894	-183.80	-4.4028	215.14	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
7	-3.1053E-03	-2.5740E-06	-945.95	-240.42	-797.17	-18.895	-183.78	-4.4026	200.48	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
8	-3.1086E-03	-2.5215E-06	-947.30	-233.07	-797.21	-18.465	-183.88	-4.3004	903.75	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
9	-3.1080E-03	-2.5215E-06	-947.15	-233.08	-797.12	-18.466	-183.86	-4.3002	889.09	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
10	-3.1075E-03	-2.5216E-06	-947.01	-233.09	-797.03	-18.467	-183.84	-4.3000	874.81	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
11	-3.1069E-03	-2.5216E-06	-946.87	-233.10	-796.94	-18.468	-183.82	-4.2999	860.53	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
12	-3.1064E-03	-2.5217E-06	-946.72	-233.11	-796.85	-18.469	-183.81	-4.2997	846.26	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
13	-3.1059E-03	-2.5217E-06	-946.58	-233.12	-796.76	-18.470	-183.79	-4.2995	831.98	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
14	-3.1053E-03	-2.5218E-06	-946.44	-233.12	-796.67	-18.471	-183.77	-4.2993	817.32	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.5000	0.0000	0.0000	12.000	5.0000	16.500	50.000	0.0000	0.0000
15	-3.1052E-03	-1.7010E-06	-2063.5	-87.135	-1386.2	-6.3114	-228.00	-3.0090	276.35	4.9219E+07	1.1340E+07
x(M)	0.0000	10.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
16	-3.1052E-03	-1.6947E-06	-2063.6	-86.675	-1386.1	-6.2862	-228.00	-2.9970	390.66	4.9219E+07	1.1340E+07
x(M)	0.0000	13.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
17	-3.1052E-03	-1.6885E-06	-2063.7	-86.215	-1386.0	-6.2610	-228.00	-2.9851	504.97	4.9219E+07	1.1340E+07
x(M)	0.0000	13.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
18	-3.1052E-03	-1.6822E-06	-2063.7	-85.755	-1386.0	-6.2357	-228.00	-2.9731	619.28	4.9219E+07	1.1340E+07
x(M)	0.0000	13.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
19	-3.1052E-03	-1.6759E-06	-2063.8	-85.295	-1385.9	-6.2104	-228.00	-2.9611	733.59	4.9219E+07	1.1340E+07
x(M)	0.0000	13.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
20	-3.1087E-03	-1.7015E-06	-2065.4	-87.112	-1387.3	-6.3104	-228.15	-3.0102	370.64	4.9219E+07	1.1340E+07
x(M)	0.0000	10.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
21	-3.1087E-03	-1.6952E-06	-2065.5	-86.652	-1387.2	-6.2851	-228.15	-2.9982	484.95	4.9219E+07	1.1340E+07
x(M)	0.0000	13.000	10.000	0.0000	0.0000	11.000	5.5000	13.500	50.000	0.0000	0.0000
22	-3.1087E-03	-1.6889E-06	-2065.6	-86.192	-1387.2	-6.2599	-228.15	-2.9863	599.26	4.9219E+07	1.1340E+07



APPALTATORE:

Consorzio

Soci



**ITINERARIO NAPOLI – BARI**

PROGETTAZIONE:

Mandataria

Mandanti



**RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA**

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 184 di 260
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x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
28	4.1001E-05	5.2807E-05	7597.3	19.553	975.49	13.632	266.15	7.9390	5629.8	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
29	4.1003E-05	5.2271E-05	7597.2	19.304	975.54	13.427	266.17	7.8156	5783.5	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
30	4.1010E-05	5.4412E-05	7600.6	20.299	975.76	14.246	266.23	8.3084	5208.8	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
31	4.1012E-05	5.3877E-05	7600.6	20.050	975.80	14.040	266.24	8.1849	5362.6	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
32	4.1015E-05	5.3342E-05	7600.5	19.801	975.85	13.835	266.26	8.0615	5516.4	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
33	4.1017E-05	5.2807E-05	7600.5	19.553	975.89	13.630	266.27	7.9380	5670.2	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
34	4.1019E-05	5.2271E-05	7600.4	19.304	975.94	13.425	266.28	7.8146	5824.0	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
Max.	6.2764E-05	1.3187E-04	7600.6	112.75	975.94	60.485	266.28	14.503	8172.9	4.9219E+07	4.9219E+07
Pile N.	8	1	30	7	34	7	34	7	8	15	1

LOAD CASE : 12  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
63771.8	-44273.5	1650.61
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
832.073	18070.1	-3.28780E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
5.79904E-04	-3.01941E-03	1.71016E-04
ANGLE ROT. X, RAD	ANGLE ROT. Y, RAD	ANGLE ROT. Z, RAD
9.35150E-07	7.19090E-06	3.91265E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
*****	*****	*****	*****	*****	*****	*****
1	3.5782E-04	-3.0269E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
2	3.3826E-04	-3.0244E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
3	3.1921E-04	-3.0219E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
4	3.0015E-04	-3.0194E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
5	2.8109E-04	-3.0169E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
6	2.6204E-04	-3.0145E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
7	2.4248E-04	-3.0119E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
8	9.1733E-04	-3.0269E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
9	8.9777E-04	-3.0244E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
10	8.7871E-04	-3.0219E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
11	8.5966E-04	-3.0194E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
12	8.4060E-04	-3.0169E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
13	8.2155E-04	-3.0145E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
14	8.0199E-04	-3.0119E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
15	3.0961E-04	-3.0112E-03	1.7597E-04	9.3515E-07	7.1909E-06	3.9126E-05
16	4.1330E-04	-3.0112E-03	1.7349E-04	9.3515E-07	7.1909E-06	3.9126E-05
17	5.1698E-04	-3.0112E-03	1.7102E-04	9.3515E-07	7.1909E-06	3.9126E-05
18	6.2067E-04	-3.0112E-03	1.6854E-04	9.3515E-07	7.1909E-06	3.9126E-05
19	7.2435E-04	-3.0112E-03	1.6606E-04	9.3515E-07	7.1909E-06	3.9126E-05
20	4.3545E-04	-3.0276E-03	1.7597E-04	9.3515E-07	7.1909E-06	3.9126E-05
21	5.3914E-04	-3.0276E-03	1.7349E-04	9.3515E-07	7.1909E-06	3.9126E-05
22	6.4282E-04	-3.0276E-03	1.7102E-04	9.3515E-07	7.1909E-06	3.9126E-05
23	7.4651E-04	-3.0276E-03	1.6854E-04	9.3515E-07	7.1909E-06	3.9126E-05
24	8.5019E-04	-3.0276E-03	1.6606E-04	9.3515E-07	7.1909E-06	3.9126E-05
25	3.5348E-04	-2.4692E-03	7.5300E-05	9.3515E-07	7.1909E-06	3.9126E-05
26	4.5716E-04	-2.4692E-03	7.2821E-05	9.3515E-07	7.1909E-06	3.9126E-05
27	5.6085E-04	-2.4692E-03	7.0343E-05	9.3515E-07	7.1909E-06	3.9126E-05
28	6.6453E-04	-2.4692E-03	6.7865E-05	9.3515E-07	7.1909E-06	3.9126E-05
29	7.6822E-04	-2.4692E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
30	3.9159E-04	-2.4741E-03	7.5300E-05	9.3515E-07	7.1909E-06	3.9126E-05
31	4.9527E-04	-2.4741E-03	7.2821E-05	9.3515E-07	7.1909E-06	3.9126E-05



## APPALTATORE:

Consorzio

Soci



## ITINERARIO NAPOLI – BARI

## PROGETTAZIONE:

Mandatario

Mandanti

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

## PROGETTO ESECUTIVO

## RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	185 di 260

32	5.9896E-04	-2.4741E-03	7.0343E-05	9.3515E-07	7.1909E-06	3.9126E-05
33	7.0265E-04	-2.4741E-03	6.7865E-05	9.3515E-07	7.1909E-06	3.9126E-05
34	8.0633E-04	-2.4741E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
MINIMUM	2.4248E-04	-3.0276E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.1733E-04	-2.4692E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	8	25	1	1	1	1

## \* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	1050.5	-785.24	82.500	0.7597	-328.95	-2636.8
2	993.07	-784.77	82.523	0.7597	-329.01	-2634.9
3	937.13	-784.31	82.546	0.7597	-329.08	-2633.0
4	881.18	-783.85	82.569	0.7597	-329.14	-2631.2
5	825.24	-783.39	82.592	0.7597	-329.21	-2629.3
6	769.29	-782.93	82.615	0.7597	-329.27	-2627.4
7	711.87	-782.46	82.638	0.7597	-329.34	-2625.5
8	2693.1	-784.85	74.945	0.7597	-295.05	-2637.9
9	2635.7	-784.38	74.967	0.7597	-295.11	-2635.4
10	2579.7	-783.92	74.988	0.7597	-295.17	-2633.5
11	2523.8	-783.46	75.009	0.7597	-295.23	-2631.6
12	2467.8	-783.00	75.030	0.7597	-295.29	-2629.8
13	2411.9	-782.54	75.051	0.7597	-295.35	-2627.9
14	2354.5	-782.07	75.072	0.7597	-295.41	-2626.0
15	908.97	-1363.4	37.692	0.7597	-118.17	-6045.7
16	1213.4	-1363.3	37.069	0.7597	-116.02	-6045.7
17	1517.8	-1363.3	36.445	0.7597	-113.88	-6045.7
18	1822.2	-1363.2	35.821	0.7597	-111.73	-6045.8
19	2126.6	-1363.2	35.198	0.7597	-109.59	-6045.8
20	1278.4	-1368.8	37.620	0.7597	-118.02	-6074.4
21	1582.8	-1368.7	36.997	0.7597	-115.88	-6074.4
22	1887.2	-1368.7	36.374	0.7597	-113.73	-6074.4
23	2191.6	-1368.6	35.752	0.7597	-111.59	-6074.5
24	2496.0	-1368.5	35.130	0.7597	-109.45	-6074.5
25	1396.6	-1962.8	20.237	0.5003	-46.471	-7632.7
26	1806.3	-1962.7	19.295	0.5003	-43.619	-7632.7
27	2215.9	-1962.6	18.353	0.5003	-40.766	-7632.6
28	2625.6	-1962.5	17.411	0.5003	-37.914	-7632.6
29	3035.2	-1962.4	16.470	0.5003	-35.062	-7632.6
30	1547.2	-1966.1	20.223	0.5003	-46.450	-7647.6
31	1956.8	-1966.0	19.281	0.5003	-43.598	-7647.5
32	2366.5	-1965.9	18.340	0.5003	-40.747	-7647.5
33	2776.2	-1965.8	17.399	0.5003	-37.895	-7647.5
34	3185.8	-1965.7	16.458	0.5003	-35.044	-7647.5
MINIMUM	711.87	-1966.1	16.458	0.5003	-329.34	-7647.6
Pile N.	7	30	34	25	7	30
MAXIMUM	3185.8	-782.07	82.638	0.7597	-35.044	-2625.5
Pile N.	34	14	7	1	34	7

## THE PILE COORDINATE SYSTEM (LOCAL AXES)

## \* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
1	3.5782E-04	-3.0269E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
2	3.3826E-04	-3.0244E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
3	3.1921E-04	-3.0219E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
4	3.0015E-04	-3.0194E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
5	2.8109E-04	-3.0169E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
6	2.6204E-04	-3.0145E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
7	2.4248E-04	-3.0119E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
8	9.1733E-04	-3.0269E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
9	8.9777E-04	-3.0244E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
10	8.7871E-04	-3.0219E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
11	8.5966E-04	-3.0194E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
12	8.4060E-04	-3.0169E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
13	8.2155E-04	-3.0145E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
14	8.0199E-04	-3.0119E-03	1.6433E-04	9.3515E-07	7.1909E-06	3.9126E-05
15	3.0961E-04	-3.0112E-03	1.7597E-04	9.3515E-07	7.1909E-06	3.9126E-05
16	4.1330E-04	-3.0112E-03	1.7349E-04	9.3515E-07	7.1909E-06	3.9126E-05
17	5.1698E-04	-3.0112E-03	1.7102E-04	9.3515E-07	7.1909E-06	3.9126E-05
18	6.2067E-04	-3.0112E-03	1.6854E-04	9.3515E-07	7.1909E-06	3.9126E-05
19	7.2435E-04	-3.0112E-03	1.6606E-04	9.3515E-07	7.1909E-06	3.9126E-05
20	4.3545E-04	-3.0276E-03	1.7597E-04	9.3515E-07	7.1909E-06	3.9126E-05
21	5.3914E-04	-3.0276E-03	1.7349E-04	9.3515E-07	7.1909E-06	3.9126E-05
22	6.4282E-04	-3.0276E-03	1.7102E-04	9.3515E-07	7.1909E-06	3.9126E-05
23	7.4651E-04	-3.0276E-03	1.6854E-04	9.3515E-07	7.1909E-06	3.9126E-05
24	8.5019E-04	-3.0276E-03	1.6606E-04	9.3515E-07	7.1909E-06	3.9126E-05
25	3.5348E-04	-2.4692E-03	7.5300E-05	9.3515E-07	7.1909E-06	3.9126E-05
26	4.5716E-04	-2.4692E-03	7.2821E-05	9.3515E-07	7.1909E-06	3.9126E-05
27	5.6085E-04	-2.4692E-03	7.0343E-05	9.3515E-07	7.1909E-06	3.9126E-05

<b>APPALTATORE:</b> Consorzio <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
<b>COMMESSA</b> <b>IF1N</b>	<b>LOTTO</b> <b>01 E ZZ</b>	<b>CODIFICA</b> <b>RG</b>	<b>DOCUMENTO</b> <b>MD0000 001</b>	<b>REV.</b> <b>B</b>	<b>FOGLIO</b> <b>186 di 260</b>

28	6.6453E-04	-2.4692E-03	6.7865E-05	9.3515E-07	7.1909E-06	3.9126E-05
29	7.6822E-04	-2.4692E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
30	3.9159E-04	-2.4741E-03	7.5300E-05	9.3515E-07	7.1909E-06	3.9126E-05
31	4.9527E-04	-2.4741E-03	7.2821E-05	9.3515E-07	7.1909E-06	3.9126E-05
32	5.9896E-04	-2.4741E-03	7.0343E-05	9.3515E-07	7.1909E-06	3.9126E-05
33	7.0265E-04	-2.4741E-03	6.7865E-05	9.3515E-07	7.1909E-06	3.9126E-05
34	8.0633E-04	-2.4741E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
MINIMUM	2.4248E-04	-3.0276E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.1733E-04	-2.4692E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	8	25	1	1	1	1






\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
1	1050.5	-785.24	82.500	0.7597	-328.95	-2636.8
2	993.07	-784.77	82.523	0.7597	-329.01	-2634.9
3	937.13	-784.31	82.546	0.7597	-329.08	-2633.0
4	881.18	-783.85	82.569	0.7597	-329.14	-2631.2
5	825.24	-783.39	82.592	0.7597	-329.21	-2629.3
6	769.29	-782.93	82.615	0.7597	-329.27	-2627.4
7	711.87	-782.46	82.638	0.7597	-329.34	-2625.5
8	2693.1	-784.85	74.945	0.7597	-295.05	-2637.3
9	2635.7	-784.38	74.967	0.7597	-295.11	-2635.4
10	2579.7	-783.92	74.988	0.7597	-295.17	-2633.5
11	2523.8	-783.46	75.009	0.7597	-295.23	-2631.6
12	2467.8	-783.00	75.030	0.7597	-295.29	-2629.8
13	2411.9	-782.54	75.051	0.7597	-295.35	-2627.9
14	2354.5	-782.07	75.072	0.7597	-295.41	-2626.0
15	908.97	-1363.4	37.692	0.7597	-118.17	-6045.7
16	1213.4	-1363.3	37.069	0.7597	-116.02	-6045.7
17	1517.8	-1363.3	36.445	0.7597	-113.88	-6045.7
18	1822.2	-1363.2	35.821	0.7597	-111.73	-6045.8
19	2126.6	-1363.2	35.198	0.7597	-109.59	-6045.8
20	1278.4	-1368.8	37.620	0.7597	-118.02	-6074.4
21	1582.8	-1368.7	36.997	0.7597	-115.88	-6074.4
22	1887.2	-1368.7	36.374	0.7597	-113.73	-6074.4
23	2191.6	-1368.6	35.752	0.7597	-111.59	-6074.5
24	2496.0	-1368.5	35.130	0.7597	-109.45	-6074.5
25	1396.6	-1962.8	20.237	0.5003	-46.471	-7632.7
26	1806.3	-1962.7	19.295	0.5003	-43.619	-7632.7
27	2215.9	-1962.6	18.353	0.5003	-40.766	-7632.6
28	2625.6	-1962.5	17.411	0.5003	-37.914	-7632.6
29	3035.2	-1962.4	16.470	0.5003	-35.062	-7632.6
30	1547.2	-1966.1	20.223	0.5003	-46.450	-7647.6
31	1956.8	-1966.0	19.281	0.5003	-43.598	-7647.5
32	2366.5	-1965.9	18.340	0.5003	-40.747	-7647.5
33	2776.2	-1965.8	17.399	0.5003	-37.895	-7647.5
34	3185.8	-1965.7	16.458	0.5003	-35.044	-7647.5
MINIMUM	711.87	-1966.1	16.458	0.5003	-329.34	-7647.6
Pile N.	7	30	34	25	7	30
MAXIMUM	3185.8	-782.07	82.638	0.7597	-35.044	-2625.5
Pile N.	34	14	7	1	34	7

PILE GROUP	STRESS, KN/ M**2
1	7510.6
2	7486.3
3	7462.5
4	7438.8
5	7415.1
6	7391.4
7	7367.0
8	8058.9
9	8034.6
10	8010.8
11	7987.1
12	7963.4
13	7939.7
14	7915.3
15	4097.6
16	4198.6
17	4299.6
18	4400.6
19	4501.6
20	4238.6
21	4339.6
22	4440.6
23	4541.6
24	4642.7
25	5240.7
26	5377.1
27	5513.4
28	5649.8
29	5786.2





<b>APPALTATORE:</b> Consorzio <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   	
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN 38319.6	HOR. LOAD Y, KN -28992.4	HOR. LOAD Z, KN 123.441
MOMENT X, KN- M 20.5255	MOMENT Y, KN- M 1465.23	MOMENT Z, KN- M -3.44564E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M 3.48457E-04	HORIZONTAL Y, M -1.29926E-03	HORIZONTAL Z, M 1.06957E-05
ANGLE ROT. X, RAD 1.81447E-08	ANGLE ROT. Y, RAD 5.33811E-07	ANGLE ROT. Z, RAD -1.15072E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

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\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
*****	*****	*****	*****	*****	*****	*****
1	4.3501E-04	-1.2994E-03	1.0825E-05	1.8145E-08	5.3381E-07	-1.1507E-05
2	4.3356E-04	-1.2994E-03	1.0825E-05	1.8145E-08	5.3381E-07	-1.1507E-05
3	4.3215E-04	-1.2993E-03	1.0825E-05	1.8145E-08	5.3381E-07	-1.1507E-05
4	4.3073E-04	-1.2993E-03	1.0825E-05	1.8145E-08	5.3381E-07	-1.1507E-05
5	4.2932E-04	-1.2992E-03	1.0825E-05	1.8145E-08	5.3381E-07	-1.1507E-05
6	4.2790E-04	-1.2992E-03	1.0825E-05	1.8145E-08	5.3381E-07	-1.1507E-05
7	4.2645E-04	-1.2991E-03	1.0825E-05	1.8145E-08	5.3381E-07	-1.1507E-05
8	2.7046E-04	-1.2994E-03	1.0566E-05	1.8145E-08	5.3381E-07	-1.1507E-05
9	2.6901E-04	-1.2994E-03	1.0566E-05	1.8145E-08	5.3381E-07	-1.1507E-05
10	2.6759E-04	-1.2993E-03	1.0566E-05	1.8145E-08	5.3381E-07	-1.1507E-05
11	2.6618E-04	-1.2993E-03	1.0566E-05	1.8145E-08	5.3381E-07	-1.1507E-05
12	2.6477E-04	-1.2992E-03	1.0566E-05	1.8145E-08	5.3381E-07	-1.1507E-05
13	2.6335E-04	-1.2992E-03	1.0566E-05	1.8145E-08	5.3381E-07	-1.1507E-05
14	2.6190E-04	-1.2991E-03	1.0566E-05	1.8145E-08	5.3381E-07	-1.1507E-05
15	4.0477E-04	-1.2991E-03	1.0792E-05	1.8145E-08	5.3381E-07	-1.1507E-05
16	3.7428E-04	-1.2991E-03	1.0744E-05	1.8145E-08	5.3381E-07	-1.1507E-05
17	3.4379E-04	-1.2991E-03	1.0696E-05	1.8145E-08	5.3381E-07	-1.1507E-05
18	3.1329E-04	-1.2991E-03	1.0648E-05	1.8145E-08	5.3381E-07	-1.1507E-05
19	2.8280E-04	-1.2991E-03	1.0600E-05	1.8145E-08	5.3381E-07	-1.1507E-05
20	4.1412E-04	-1.2994E-03	1.0792E-05	1.8145E-08	5.3381E-07	-1.1507E-05
21	3.8362E-04	-1.2994E-03	1.0744E-05	1.8145E-08	5.3381E-07	-1.1507E-05
22	3.5313E-04	-1.2994E-03	1.0696E-05	1.8145E-08	5.3381E-07	-1.1507E-05
23	3.2263E-04	-1.2994E-03	1.0648E-05	1.8145E-08	5.3381E-07	-1.1507E-05
24	2.9214E-04	-1.2994E-03	1.0600E-05	1.8145E-08	5.3381E-07	-1.1507E-05
25	4.0803E-04	-1.4603E-03	3.3185E-06	1.8145E-08	5.3381E-07	-1.1507E-05
26	3.7754E-04	-1.4603E-03	3.2704E-06	1.8145E-08	5.3381E-07	-1.1507E-05
27	3.4704E-04	-1.4603E-03	3.2224E-06	1.8145E-08	5.3381E-07	-1.1507E-05
28	3.1655E-04	-1.4603E-03	3.1743E-06	1.8145E-08	5.3381E-07	-1.1507E-05
29	2.8605E-04	-1.4603E-03	3.1262E-06	1.8145E-08	5.3381E-07	-1.1507E-05
30	4.1086E-04	-1.4604E-03	3.3185E-06	1.8145E-08	5.3381E-07	-1.1507E-05
31	3.8037E-04	-1.4604E-03	3.2704E-06	1.8145E-08	5.3381E-07	-1.1507E-05
32	3.4987E-04	-1.4604E-03	3.2224E-06	1.8145E-08	5.3381E-07	-1.1507E-05
33	3.1938E-04	-1.4604E-03	3.1743E-06	1.8145E-08	5.3381E-07	-1.1507E-05
34	2.8888E-04	-1.4604E-03	3.1262E-06	1.8145E-08	5.3381E-07	-1.1507E-05
MINIMUM	2.6190E-04	-1.4604E-03	3.1262E-06	1.8145E-08	5.3381E-07	-1.1507E-05
Pile N.	14	30	29	1	1	1
MAXIMUM	4.3501E-04	-1.2991E-03	1.0825E-05	1.8145E-08	5.3381E-07	-1.1507E-05
Pile N.	1	15	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	1277.1	-466.71	6.3496	0.014741	-22.826	-1504.2
2	1272.9	-466.70	6.3496	0.014741	-22.826	-1504.2
3	1268.7	-466.68	6.3497	0.014741	-22.826	-1504.1
4	1264.6	-466.67	6.3498	0.014741	-22.827	-1504.1
5	1260.4	-466.66	6.3498	0.014741	-22.827	-1504.0
6	1256.2	-466.65	6.3499	0.014741	-22.827	-1504.0
7	1252.0	-466.64	6.3500	0.014741	-22.827	-1503.9
8	794.02	-466.79	6.1588	0.014741	-22.035	-1504.2
9	789.76	-466.77	6.1589	0.014741	-22.036	-1504.2
10	785.61	-466.76	6.1589	0.014741	-22.036	-1504.1
11	781.46	-466.75	6.1590	0.014741	-22.036	-1504.1
12	777.30	-466.74	6.1591	0.014741	-22.036	-1504.0
13	773.15	-466.73	6.1591	0.014741	-22.036	-1504.0

## APPALTATORE:

Consorzio



Soci



## ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

## PROGETTAZIONE:

Mandataria



Mandanti



## PROGETTO ESECUTIVO

## RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	190 di 260

14	768.89	-466.72	6.1592	0.014741	-22.036	-1504.0
15	1188.3	-840.35	2.8935	0.014741	-8.2405	-3640.6
16	1098.8	-840.36	2.8783	0.014741	-8.1915	-3640.6
17	1009.3	-840.37	2.8631	0.014741	-8.1424	-3640.6
18	919.77	-840.38	2.8479	0.014741	-8.0933	-3640.6
19	830.24	-840.39	2.8327	0.014741	-8.0442	-3640.6
20	1215.8	-840.49	2.8932	0.014741	-8.2401	-3641.2
21	1126.2	-840.50	2.8780	0.014741	-8.1910	-3641.2
22	1036.7	-840.51	2.8628	0.014741	-8.1420	-3641.2
23	947.19	-840.52	2.8476	0.014741	-8.0929	-3641.2
24	857.67	-840.53	2.8324	0.014741	-8.0438	-3641.2
25	1612.1	-1405.3	0.7663	9.7067E-03	-1.0286	-5503.1
26	1491.6	-1405.3	0.7457	9.7067E-03	-0.9690	-5503.1
27	1371.2	-1405.4	0.7250	9.7067E-03	-0.9093	-5503.1
28	1250.7	-1405.4	0.7044	9.7067E-03	-0.8497	-5503.1
29	1130.2	-1405.4	0.6837	9.7067E-03	-0.7901	-5503.1
30	1623.3	-1405.4	0.7663	9.7067E-03	-1.0286	-5503.4
31	1502.8	-1405.4	0.7456	9.7067E-03	-0.9690	-5503.4
32	1382.3	-1405.4	0.7250	9.7067E-03	-0.9093	-5503.4
33	1261.9	-1405.5	0.7044	9.7067E-03	-0.8497	-5503.4
34	1141.4	-1405.5	0.6837	9.7067E-03	-0.7901	-5503.4
MINIMUM	768.89	-1405.5	0.6837	9.7067E-03	-22.827	-5503.4
Pile N.	14	33	34	25	4	30
MAXIMUM	1623.3	-466.64	6.3500	0.014741	-0.7901	-1503.9
Pile N.	30	7	7	1	34	7

## THE PILE COORDINATE SYSTEM (LOCAL AXES)

## \* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
1	4.3501E-04	-1.2994E-03	1.0825E-05	1.8145E-08	5.3381E-07	-1.1507E-05
2	4.3356E-04	-1.2994E-03	1.0825E-05	1.8145E-08	5.3381E-07	-1.1507E-05
3	4.3215E-04	-1.2993E-03	1.0825E-05	1.8145E-08	5.3381E-07	-1.1507E-05
4	4.3073E-04	-1.2993E-03	1.0825E-05	1.8145E-08	5.3381E-07	-1.1507E-05
5	4.2932E-04	-1.2992E-03	1.0825E-05	1.8145E-08	5.3381E-07	-1.1507E-05
6	4.2790E-04	-1.2992E-03	1.0825E-05	1.8145E-08	5.3381E-07	-1.1507E-05
7	4.2645E-04	-1.2991E-03	1.0825E-05	1.8145E-08	5.3381E-07	-1.1507E-05
8	2.7046E-04	-1.2994E-03	1.0566E-05	1.8145E-08	5.3381E-07	-1.1507E-05
9	2.6901E-04	-1.2994E-03	1.0566E-05	1.8145E-08	5.3381E-07	-1.1507E-05
10	2.6759E-04	-1.2993E-03	1.0566E-05	1.8145E-08	5.3381E-07	-1.1507E-05
11	2.6618E-04	-1.2993E-03	1.0566E-05	1.8145E-08	5.3381E-07	-1.1507E-05
12	2.6477E-04	-1.2992E-03	1.0566E-05	1.8145E-08	5.3381E-07	-1.1507E-05
13	2.6335E-04	-1.2992E-03	1.0566E-05	1.8145E-08	5.3381E-07	-1.1507E-05
14	2.6190E-04	-1.2991E-03	1.0566E-05	1.8145E-08	5.3381E-07	-1.1507E-05
15	4.0477E-04	-1.2991E-03	1.0792E-05	1.8145E-08	5.3381E-07	-1.1507E-05
16	3.7428E-04	-1.2991E-03	1.0744E-05	1.8145E-08	5.3381E-07	-1.1507E-05
17	3.4379E-04	-1.2991E-03	1.0696E-05	1.8145E-08	5.3381E-07	-1.1507E-05
18	3.1329E-04	-1.2991E-03	1.0648E-05	1.8145E-08	5.3381E-07	-1.1507E-05
19	2.8280E-04	-1.2991E-03	1.0600E-05	1.8145E-08	5.3381E-07	-1.1507E-05
20	4.1412E-04	-1.2994E-03	1.0792E-05	1.8145E-08	5.3381E-07	-1.1507E-05
21	3.8362E-04	-1.2994E-03	1.0744E-05	1.8145E-08	5.3381E-07	-1.1507E-05
22	3.5313E-04	-1.2994E-03	1.0696E-05	1.8145E-08	5.3381E-07	-1.1507E-05
23	3.2263E-04	-1.2994E-03	1.0648E-05	1.8145E-08	5.3381E-07	-1.1507E-05
24	2.9214E-04	-1.2994E-03	1.0600E-05	1.8145E-08	5.3381E-07	-1.1507E-05
25	4.0803E-04	-1.4603E-03	3.3185E-06	1.8145E-08	5.3381E-07	-1.1507E-05
26	3.7754E-04	-1.4603E-03	3.2704E-06	1.8145E-08	5.3381E-07	-1.1507E-05
27	3.4704E-04	-1.4603E-03	3.2224E-06	1.8145E-08	5.3381E-07	-1.1507E-05
28	3.1655E-04	-1.4603E-03	3.1743E-06	1.8145E-08	5.3381E-07	-1.1507E-05
29	2.8605E-04	-1.4603E-03	3.1262E-06	1.8145E-08	5.3381E-07	-1.1507E-05
30	4.1086E-04	-1.4604E-03	3.3185E-06	1.8145E-08	5.3381E-07	-1.1507E-05
31	3.8037E-04	-1.4604E-03	3.2704E-06	1.8145E-08	5.3381E-07	-1.1507E-05
32	3.4987E-04	-1.4604E-03	3.2224E-06	1.8145E-08	5.3381E-07	-1.1507E-05
33	3.1938E-04	-1.4604E-03	3.1743E-06	1.8145E-08	5.3381E-07	-1.1507E-05
34	2.8888E-04	-1.4604E-03	3.1262E-06	1.8145E-08	5.3381E-07	-1.1507E-05
MINIMUM	2.6190E-04	-1.4604E-03	3.1262E-06	1.8145E-08	5.3381E-07	-1.1507E-05
Pile N.	14	30	29	1	1	1
MAXIMUM	4.3501E-04	-1.2991E-03	1.0825E-05	1.8145E-08	5.3381E-07	-1.1507E-05
Pile N.	1	15	1	1	1	1

## \* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	1277.1	-466.71	6.3496	0.014741	-22.826	-1504.2
2	1272.9	-466.70	6.3496	0.014741	-22.826	-1504.2
3	1268.7	-466.68	6.3497	0.014741	-22.826	-1504.1
4	1264.6	-466.67	6.3498	0.014741	-22.827	-1504.1
5	1260.4	-466.66	6.3498	0.014741	-22.827	-1504.0
6	1256.2	-466.65	6.3499	0.014741	-22.827	-1504.0
7	1252.0	-466.64	6.3500	0.014741	-22.827	-1503.9
8	794.02	-466.79	6.1588	0.014741	-22.035	-1504.2
9	789.76	-466.77	6.1589	0.014741	-22.036	-1504.2

<b>APPALTATORE:</b> Consorzio    	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
<b>PROGETTAZIONE:</b> Mandataria    					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>	CODIFICA <b>RG</b>	DOCUMENTO <b>MD0000 001</b>	REV. <b>B</b>	FOGLIO <b>191 di 260</b>

10	785.61	-466.76	6.1589	0.014741	-22.036	-1504.1
11	781.46	-466.75	6.1590	0.014741	-22.036	-1504.1
12	777.30	-466.74	6.1591	0.014741	-22.036	-1504.0
13	773.15	-466.73	6.1591	0.014741	-22.036	-1504.0
14	768.89	-466.72	6.1592	0.014741	-22.036	-1504.0
15	1188.3	-840.35	2.8935	0.014741	-8.2405	-3640.6
16	1098.8	-840.36	2.8783	0.014741	-8.1915	-3640.6
17	1009.3	-840.37	2.8631	0.014741	-8.1424	-3640.6
18	919.77	-840.38	2.8479	0.014741	-8.0933	-3640.6
19	830.24	-840.39	2.8327	0.014741	-8.0442	-3640.6
20	1215.8	-840.49	2.8932	0.014741	-8.2401	-3641.2
21	1126.2	-840.50	2.8780	0.014741	-8.1910	-3641.2
22	1036.7	-840.51	2.8628	0.014741	-8.1420	-3641.2
23	947.19	-840.52	2.8476	0.014741	-8.0929	-3641.2
24	857.67	-840.53	2.8324	0.014741	-8.0438	-3641.2
25	1612.1	-1405.3	0.7663	9.7067E-03	-1.0286	-5503.1
26	1491.6	-1405.3	0.7457	9.7067E-03	-0.9690	-5503.1
27	1371.2	-1405.4	0.7250	9.7067E-03	-0.9093	-5503.1
28	1250.7	-1405.4	0.7044	9.7067E-03	-0.8497	-5503.1
29	1130.2	-1405.4	0.6837	9.7067E-03	-0.7901	-5503.1
30	1623.3	-1405.4	0.7663	9.7067E-03	-1.0286	-5503.4
31	1502.8	-1405.4	0.7456	9.7067E-03	-0.9690	-5503.4
32	1382.3	-1405.4	0.7250	9.7067E-03	-0.9093	-5503.4
33	1261.9	-1405.5	0.7044	9.7067E-03	-0.8497	-5503.4
34	1141.4	-1405.5	0.6837	9.7067E-03	-0.7901	-5503.4
MINIMUM	768.89	-1405.5	0.6837	9.7067E-03	-22.827	-5503.4
Pile N.	14	33	34	25	4	30
MAXIMUM	1623.3	-466.64	6.3500	0.014741	-0.7901	-1503.9
Pile N.	30	7	7	1	34	7

PILE GROUP STRESS, KN/ M\*\*2  
 \*\*\*\*\*

1	4508.8
2	4507.3
3	4505.8
4	4504.3
5	4502.8
6	4501.3
7	4499.7
8	4347.8
9	4346.3
10	4344.8
11	4343.3
12	4341.8
13	4340.3
14	4338.7
15	2673.1
16	2643.2
17	2613.4
18	2583.5
19	2553.7
20	2682.6
21	2652.8
22	2622.9
23	2593.1
24	2563.3
25	3979.0
26	3938.9
27	3898.7
28	3858.6
29	3818.4
30	3983.0
31	3942.8
32	3902.7
33	3862.5
34	3822.4
MINIMUM	2553.7
Pile N.	19
MAXIMUM	4508.8
Pile N.	1

\* EFFECTS FOR LATERALLY LOADED PILE \*  
 \* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR	DISPL. z-DIR	MOMENT KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2	FLEX. RIG. z-DIR KN- M**2	FLEX. RIG. y-DIR KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	-1.2994E-03	-2.2667E-07	-500.38	-22.826	-466.75	-1.9741	-116.66	-0.4210	425.71	1.1340E+07	4.9219E+07
x( M)	0.0000	13.500	7.0000	0.0000	0.0000	11.000	4.5000	14.000	50.000	0.0000	0.0000
2	-1.2994E-03	-2.2668E-07	-500.36	-22.826	-466.74	-1.9742	-116.65	-0.4210	424.29	1.1340E+07	4.9219E+07
x( M)	0.0000	13.500	7.0000	0.0000	0.0000	11.000	4.5000	14.000	50.000	0.0000	0.0000
3	-1.2993E-03	-2.2668E-07	-500.35	-22.826	-466.73	-1.9742	-116.65	-0.4210	422.90	1.1340E+07	4.9219E+07
x( M)	0.0000	13.500	7.0000	0.0000	0.0000	11.000	4.5000	14.000	50.000	0.0000	0.0000
4	-1.2993E-03	-2.2668E-07	-500.33	-22.827	-466.72	-1.9742	-116.65	-0.4210	421.52	1.1340E+07	4.9219E+07





APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandataria

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	193 di 260

x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
10	2.7199E-05	1.0566E-05	1504.1	10.721	119.95	6.1590	28.230	1.3845	4344.8	1.1340E+07	4.9219E+07
x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
11	2.7198E-05	1.0566E-05	1504.1	10.721	119.95	6.1591	28.230	1.3845	4343.3	1.1340E+07	4.9219E+07
x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
12	2.7196E-05	1.0566E-05	1504.0	10.721	119.95	6.1592	28.229	1.3846	4341.8	1.1340E+07	4.9219E+07
x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
13	2.7195E-05	1.0566E-05	1504.0	10.721	119.94	6.1592	28.228	1.3846	4340.3	1.1340E+07	4.9219E+07
x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
14	2.7194E-05	1.0566E-05	1504.0	10.721	119.94	6.1593	28.228	1.3846	4338.7	1.1340E+07	4.9219E+07
x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
15	2.9302E-05	1.0792E-05	3640.6	3.3454	189.89	2.8937	29.918	0.7412	2673.1	4.9219E+07	1.1340E+07
x( M)	15.500	0.0000	0.0000	6.5000	12.500	0.0000	16.000	4.5000	0.0000	0.0000	0.0000
16	2.9301E-05	1.0744E-05	3640.6	3.3301	189.89	2.8785	29.917	0.7374	2643.2	4.9219E+07	1.1340E+07
x( M)	15.500	0.0000	0.0000	6.5000	12.500	0.0000	16.000	4.5000	0.0000	0.0000	0.0000
17	2.9300E-05	1.0696E-05	3640.6	3.3148	189.89	2.8632	29.917	0.7337	2613.4	4.9219E+07	1.1340E+07
x( M)	15.500	0.0000	0.0000	6.5000	12.500	0.0000	16.000	4.5000	0.0000	0.0000	0.0000
18	2.9299E-05	1.0648E-05	3640.6	3.2994	189.88	2.8480	29.916	0.7299	2583.5	4.9219E+07	1.1340E+07
x( M)	15.500	0.0000	0.0000	6.5000	12.500	0.0000	16.000	4.5000	0.0000	0.0000	0.0000
19	2.9298E-05	1.0600E-05	3640.6	3.2841	189.88	2.8328	29.916	0.7262	2553.7	4.9219E+07	1.1340E+07
x( M)	15.500	0.0000	0.0000	6.5000	12.500	0.0000	16.000	4.5000	0.0000	0.0000	0.0000
20	2.9310E-05	1.0792E-05	3641.2	3.3453	189.93	2.8935	29.922	0.7411	2682.6	4.9219E+07	1.1340E+07
x( M)	15.500	0.0000	0.0000	6.5000	12.500	0.0000	16.000	4.5000	0.0000	0.0000	0.0000
21	2.9309E-05	1.0744E-05	3641.2	3.3299	189.92	2.8782	29.922	0.7374	2652.8	4.9219E+07	1.1340E+07
x( M)	15.500	0.0000	0.0000	6.5000	12.500	0.0000	16.000	4.5000	0.0000	0.0000	0.0000
22	2.9308E-05	1.0696E-05	3641.2	3.3146	189.92	2.8630	29.921	0.7336	2622.9	4.9219E+07	1.1340E+07
x( M)	15.500	0.0000	0.0000	6.5000	12.500	0.0000	16.000	4.5000	0.0000	0.0000	0.0000
23	2.9307E-05	1.0648E-05	3641.2	3.2993	189.92	2.8478	29.921	0.7298	2593.1	4.9219E+07	1.1340E+07
x( M)	15.500	0.0000	0.0000	6.5000	12.500	0.0000	16.000	4.5000	0.0000	0.0000	0.0000
24	2.9306E-05	1.0600E-05	3641.2	3.2839	189.91	2.8326	29.920	0.7261	2563.3	4.9219E+07	1.1340E+07
x( M)	15.500	0.0000	0.0000	6.5000	12.500	0.0000	16.000	4.5000	0.0000	0.0000	0.0000
25	2.6346E-05	3.3185E-06	5503.1	1.1822	621.54	0.7663	169.01	0.3756	3979.0	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
26	2.6345E-05	3.2704E-06	5503.1	1.1658	621.53	0.7457	169.01	0.3639	3938.9	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
27	2.6345E-05	3.2224E-06	5503.1	1.1494	621.52	0.7250	169.01	0.3521	3898.7	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
28	2.6345E-05	3.1743E-06	5503.1	1.1329	621.52	0.7044	169.01	0.3403	3858.6	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
29	2.6344E-05	3.1262E-06	5503.1	1.1165	621.51	0.6837	169.00	0.3285	3818.4	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
30	2.6347E-05	3.3185E-06	5503.4	1.1822	621.58	0.7663	169.02	0.3756	3983.0	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
31	2.6347E-05	3.2704E-06	5503.4	1.1658	621.57	0.7457	169.02	0.3639	3942.8	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
32	2.6347E-05	3.2224E-06	5503.4	1.1493	621.56	0.7250	169.02	0.3521	3902.7	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
33	2.6346E-05	3.1743E-06	5503.4	1.1329	621.56	0.7044	169.02	0.3403	3862.5	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
34	2.6346E-05	3.1262E-06	5503.4	1.1165	621.55	0.6837	169.01	0.3285	3822.4	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
Max.	2.9310E-05	1.0825E-05	5503.4	11.002	621.58	6.3501	169.02	1.4277	4508.8	4.9219E+07	4.9219E+07
Pile N.	20	1	30	1	30	7	30	4	1	15	1

LOAD CASE : 14  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
38265.0	-66445.6	123.441
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
99.6108	1465.23	-2.30459E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
3.47500E-04	-6.17582E-03	1.53808E-05
ANGLE ROT. X, RAD	ANGLE ROT. Y, RAD	ANGLE ROT. Z, RAD
1.37836E-07	5.92174E-07	1.39285E-04

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  		<b>RADDOPPIO TRATTA APICE – ORSARA I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>	CODIFICA <b>RG</b>	DOCUMENTO <b>MD0000 001</b>	REV. <b>B</b>	FOGLIO <b>194 di 260</b>

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
1	-6.4364E-04	-6.1769E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
2	-6.4525E-04	-6.1766E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
3	-6.4682E-04	-6.1762E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
4	-6.4839E-04	-6.1758E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
5	-6.4996E-04	-6.1755E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
6	-6.5153E-04	-6.1751E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
7	-6.5314E-04	-6.1747E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
8	1.3481E-03	-6.1769E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
9	1.3465E-03	-6.1766E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
10	1.3450E-03	-6.1762E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
11	1.3434E-03	-6.1758E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
12	1.3418E-03	-6.1755E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
13	1.3403E-03	-6.1751E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
14	1.3386E-03	-6.1747E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
15	-3.9589E-04	-6.1746E-03	1.6111E-05	1.3784E-07	5.9217E-07	1.3929E-04
16	-2.6787E-05	-6.1746E-03	1.5746E-05	1.3784E-07	5.9217E-07	1.3929E-04
17	3.4232E-04	-6.1746E-03	1.5381E-05	1.3784E-07	5.9217E-07	1.3929E-04
18	7.1142E-04	-6.1746E-03	1.5016E-05	1.3784E-07	5.9217E-07	1.3929E-04
19	1.0805E-03	-6.1746E-03	1.4650E-05	1.3784E-07	5.9217E-07	1.3929E-04
20	-3.8553E-04	-6.1770E-03	1.6111E-05	1.3784E-07	5.9217E-07	1.3929E-04
21	-1.6424E-05	-6.1770E-03	1.5746E-05	1.3784E-07	5.9217E-07	1.3929E-04
22	3.5268E-04	-6.1770E-03	1.5381E-05	1.3784E-07	5.9217E-07	1.3929E-04
23	7.2179E-04	-6.1770E-03	1.5016E-05	1.3784E-07	5.9217E-07	1.3929E-04
24	1.0909E-03	-6.1770E-03	1.4650E-05	1.3784E-07	5.9217E-07	1.3929E-04
25	-3.9228E-04	-4.2255E-03	7.8208E-06	1.3784E-07	5.9217E-07	1.3929E-04
26	-2.3175E-05	-4.2255E-03	7.4556E-06	1.3784E-07	5.9217E-07	1.3929E-04
27	3.4593E-04	-4.2255E-03	7.0903E-06	1.3784E-07	5.9217E-07	1.3929E-04
28	7.1504E-04	-4.2255E-03	6.7251E-06	1.3784E-07	5.9217E-07	1.3929E-04
29	1.0841E-03	-4.2255E-03	6.3598E-06	1.3784E-07	5.9217E-07	1.3929E-04
30	-3.8914E-04	-4.2262E-03	7.8208E-06	1.3784E-07	5.9217E-07	1.3929E-04
31	-2.0036E-05	-4.2262E-03	7.4556E-06	1.3784E-07	5.9217E-07	1.3929E-04
32	3.4907E-04	-4.2262E-03	7.0903E-06	1.3784E-07	5.9217E-07	1.3929E-04
33	7.1818E-04	-4.2262E-03	6.7251E-06	1.3784E-07	5.9217E-07	1.3929E-04
34	1.0873E-03	-4.2262E-03	6.3598E-06	1.3784E-07	5.9217E-07	1.3929E-04
MINIMUM	-6.5314E-04	-6.1770E-03	6.3598E-06	1.3784E-07	5.9217E-07	1.3929E-04
Pile N.	7	20	29	1	1	1
MAXIMUM	1.3481E-03	-4.2255E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
1	-1882.0	-1242.6	6.1359	0.1120	-26.423	-4359.6
2	-1886.8	-1242.6	6.1360	0.1120	-26.424	-4359.4
3	-1891.3	-1242.5	6.1362	0.1120	-26.424	-4359.1
4	-1895.9	-1242.5	6.1363	0.1120	-26.425	-4358.9
5	-1900.5	-1242.4	6.1365	0.1120	-26.425	-4358.6
6	-1905.1	-1242.4	6.1366	0.1120	-26.425	-4358.4
7	-1909.8	-1242.3	6.1368	0.1120	-26.426	-4358.2
8	3957.9	-1239.0	5.2369	0.1120	-22.111	-4360.0
9	3953.1	-1238.9	5.2370	0.1120	-22.112	-4359.8
10	3948.5	-1238.9	5.2372	0.1120	-22.112	-4359.6
11	3943.9	-1238.8	5.2373	0.1120	-22.113	-4359.3
12	3939.3	-1238.7	5.2374	0.1120	-22.113	-4359.1
13	3934.7	-1238.7	5.2375	0.1120	-22.113	-4358.8
14	3930.0	-1238.6	5.2377	0.1120	-22.114	-4358.6
15	-1157.6	-2115.7	2.8068	0.1120	-9.4847	-9681.5
16	-78.327	-2115.2	2.7314	0.1120	-9.2105	-9681.7
17	1005.0	-2114.7	2.6561	0.1120	-8.9364	-9681.9
18	2088.6	-2114.2	2.5808	0.1120	-8.6622	-9682.1
19	3172.2	-2113.8	2.5057	0.1120	-8.3881	-9682.3
20	-1127.3	-2116.3	2.8064	0.1120	-9.4838	-9685.1
21	-48.025	-2115.8	2.7310	0.1120	-9.2096	-9685.3
22	1035.4	-2115.3	2.6557	0.1120	-8.9355	-9685.5
23	2119.0	-2114.9	2.5804	0.1120	-8.6614	-9685.7
24	3202.7	-2114.4	2.5053	0.1120	-8.3873	-9685.9
25	-1536.6	-2793.7	1.9724	0.073736	-5.1516	-1.0822E+04
26	-90.779	-2793.1	1.8494	0.073736	-4.7614	-1.0822E+04
27	1366.8	-2792.4	1.7265	0.073736	-4.3712	-1.0822E+04
28	2825.1	-2791.8	1.6037	0.073736	-3.9811	-1.0821E+04
29	4263.9	-2791.1	1.4811	0.073736	-3.5911	-1.0821E+04
30	-1524.3	-2794.2	1.9723	0.073736	-5.1514	-1.0824E+04
31	-78.485	-2793.5	1.8493	0.073736	-4.7612	-1.0824E+04
32	1379.2	-2792.9	1.7264	0.073736	-4.3711	-1.0824E+04
33	2837.5	-2792.2	1.6036	0.073736	-3.9810	-1.0824E+04
34	4275.2	-2791.6	1.4810	0.073736	-3.5910	-1.0823E+04
MINIMUM	-1909.8	-2794.2	1.4810	0.073736	-26.426	-1.0824E+04
Pile N.	7	30	34	25	7	30
MAXIMUM	4275.2	-1238.6	6.1368	0.1120	-3.5910	-4358.2
Pile N.	34	14	7	1	34	7

<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>						COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
1	-6.4364E-04	-6.1769E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
2	-6.4525E-04	-6.1766E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
3	-6.4682E-04	-6.1762E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
4	-6.4839E-04	-6.1758E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
5	-6.4996E-04	-6.1755E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
6	-6.5153E-04	-6.1751E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
7	-6.5314E-04	-6.1747E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
8	1.3481E-03	-6.1769E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
9	1.3465E-03	-6.1766E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
10	1.3450E-03	-6.1762E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
11	1.3434E-03	-6.1758E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
12	1.3418E-03	-6.1755E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
13	1.3403E-03	-6.1751E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
14	1.3386E-03	-6.1747E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
15	-3.9589E-04	-6.1746E-03	1.6111E-05	1.3784E-07	5.9217E-07	1.3929E-04
16	-2.6787E-05	-6.1746E-03	1.5746E-05	1.3784E-07	5.9217E-07	1.3929E-04
17	3.4232E-04	-6.1746E-03	1.5381E-05	1.3784E-07	5.9217E-07	1.3929E-04
18	7.1142E-04	-6.1746E-03	1.5016E-05	1.3784E-07	5.9217E-07	1.3929E-04
19	1.0805E-03	-6.1746E-03	1.4650E-05	1.3784E-07	5.9217E-07	1.3929E-04
20	-3.8553E-04	-6.1770E-03	1.6111E-05	1.3784E-07	5.9217E-07	1.3929E-04
21	-1.6424E-05	-6.1770E-03	1.5746E-05	1.3784E-07	5.9217E-07	1.3929E-04
22	3.5268E-04	-6.1770E-03	1.5381E-05	1.3784E-07	5.9217E-07	1.3929E-04
23	7.2179E-04	-6.1770E-03	1.5016E-05	1.3784E-07	5.9217E-07	1.3929E-04
24	1.0909E-03	-6.1770E-03	1.4650E-05	1.3784E-07	5.9217E-07	1.3929E-04
25	-3.9228E-04	-4.2255E-03	7.8208E-06	1.3784E-07	5.9217E-07	1.3929E-04
26	-2.3175E-05	-4.2255E-03	7.4556E-06	1.3784E-07	5.9217E-07	1.3929E-04
27	3.4593E-04	-4.2255E-03	7.0903E-06	1.3784E-07	5.9217E-07	1.3929E-04
28	7.1504E-04	-4.2255E-03	6.7251E-06	1.3784E-07	5.9217E-07	1.3929E-04
29	1.0841E-03	-4.2255E-03	6.3598E-06	1.3784E-07	5.9217E-07	1.3929E-04
30	-3.8914E-04	-4.2262E-03	7.8208E-06	1.3784E-07	5.9217E-07	1.3929E-04
31	-2.0036E-05	-4.2262E-03	7.4556E-06	1.3784E-07	5.9217E-07	1.3929E-04
32	3.4907E-04	-4.2262E-03	7.0903E-06	1.3784E-07	5.9217E-07	1.3929E-04
33	7.1818E-04	-4.2262E-03	6.7251E-06	1.3784E-07	5.9217E-07	1.3929E-04
34	1.0873E-03	-4.2262E-03	6.3598E-06	1.3784E-07	5.9217E-07	1.3929E-04
MINIMUM	-6.5314E-04	-6.1770E-03	6.3598E-06	1.3784E-07	5.9217E-07	1.3929E-04
Pile N.	7	20	29	1	1	1
MAXIMUM	1.3481E-03	-4.2255E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	-1882.0	-1242.6	6.1359	0.1120	-26.423	-4359.6
2	-1886.8	-1242.6	6.1360	0.1120	-26.424	-4359.4
3	-1891.3	-1242.5	6.1362	0.1120	-26.424	-4359.1
4	-1895.9	-1242.5	6.1363	0.1120	-26.425	-4358.9
5	-1900.5	-1242.4	6.1365	0.1120	-26.425	-4358.6
6	-1905.1	-1242.4	6.1366	0.1120	-26.425	-4358.4
7	-1909.8	-1242.3	6.1368	0.1120	-26.426	-4358.2
8	3957.9	-1239.0	5.2369	0.1120	-22.111	-4360.0
9	3953.1	-1238.9	5.2370	0.1120	-22.112	-4359.8
10	3948.5	-1238.9	5.2372	0.1120	-22.112	-4359.6
11	3943.9	-1238.8	5.2373	0.1120	-22.113	-4359.3
12	3939.3	-1238.7	5.2374	0.1120	-22.113	-4359.1
13	3934.7	-1238.7	5.2375	0.1120	-22.113	-4358.8
14	3930.0	-1238.6	5.2377	0.1120	-22.114	-4358.6
15	-1157.6	-2115.7	2.8068	0.1120	-9.4847	-9681.5
16	-78.327	-2115.2	2.7314	0.1120	-9.2105	-9681.7
17	1005.0	-2114.7	2.6561	0.1120	-8.9364	-9681.9
18	2088.6	-2114.2	2.5808	0.1120	-8.6622	-9682.1
19	3172.2	-2113.8	2.5057	0.1120	-8.3881	-9682.3
20	-1127.3	-2116.3	2.8064	0.1120	-9.4838	-9685.1
21	-48.025	-2115.8	2.7310	0.1120	-9.2096	-9685.3
22	1035.4	-2115.3	2.6557	0.1120	-8.9355	-9685.5
23	2119.0	-2114.9	2.5804	0.1120	-8.6614	-9685.7
24	3202.7	-2114.4	2.5053	0.1120	-8.3873	-9685.9
25	-1536.6	-2793.7	1.9724	0.073736	-5.1516	-1.0822E+04
26	-90.779	-2793.1	1.8494	0.073736	-4.7614	-1.0822E+04
27	1366.8	-2792.4	1.7265	0.073736	-4.3712	-1.0822E+04
28	2825.1	-2791.8	1.6037	0.073736	-3.9811	-1.0821E+04
29	4263.9	-2791.1	1.4811	0.073736	-3.5911	-1.0821E+04
30	-1524.3	-2794.2	1.9723	0.073736	-5.1514	-1.0824E+04
31	-78.485	-2793.5	1.8493	0.073736	-4.7612	-1.0824E+04
32	1379.2	-2792.9	1.7264	0.073736	-4.3711	-1.0824E+04
33	2837.5	-2792.2	1.6036	0.073736	-3.9810	-1.0824E+04
34	4275.2	-2791.6	1.4810	0.073736	-3.5910	-1.0823E+04

APPALTATORE: Consorzio <b>HirpiniaAV</b> Soci <b>salini impregilo</b> <b>ASTALDI</b>		<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
PROGETTAZIONE: Mandataria <b>ROKSOJL</b> Mandanti <b>NETENGINEERING</b> <b>Alpina</b>						
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B						
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	
IF1N	01 E ZZ	RG	MD0000 001	B	196 di 260	

MINIMUM	-1909.8	-2794.2	1.4810	0.073736	-26.426	-1.0824E+04
Pile N.	7	30	34	25	7	30
MAXIMUM	4275.2	-1238.6	6.1368	0.1120	-3.5910	-4358.2
Pile N.	34	14	7	1	34	7

PILE GROUP	STRESS, KN/ M**2
*****	*****
1	1.2461E+04
2	1.2462E+04
3	1.2463E+04
4	1.2464E+04
5	1.2465E+04
6	1.2466E+04
7	1.2467E+04
8	1.3154E+04
9	1.3152E+04
10	1.3150E+04
11	1.3148E+04
12	1.3146E+04
13	1.3143E+04
14	1.3141E+04
15	6440.8
16	6081.2
17	6390.2
18	6751.5
19	7112.8
20	6433.0
21	6073.3
22	6402.6
23	6763.9
24	7125.2
25	7280.2
26	6798.2
27	7223.5
28	7709.5
29	8189.1
30	7277.4
31	6795.4
32	7228.9
33	7715.0
34	8194.1
MINIMUM	6073.3
Pile N.	21
MAXIMUM	1.3154E+04
Pile N.	8

\* EFFECTS FOR LATERALLY LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR	DISPL. z-DIR	MOMENT z-DIR	MOMENT y-DIR	SHEAR y-DIR	SHEAR z-DIR	SOIL REACT y-DIR	SOIL REACT z-DIR	TOTAL STRESS	FLEX. RIG. z-DIR	FLEX. RIG. y-DIR
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	-6.1769E-03	-3.0835E-07	-1578.2	-26.423	-1242.4	-1.8685	-268.59	-0.4419	627.35	1.1340E+07	4.9219E+07
x(M)	0.0000	16.000	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
2	-6.1766E-03	-3.0836E-07	-1578.2	-26.424	-1242.4	-1.8685	-268.58	-0.4419	628.92	1.1340E+07	4.9219E+07
x(M)	0.0000	16.000	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
3	-6.1762E-03	-3.0837E-07	-1578.1	-26.424	-1242.3	-1.8686	-268.57	-0.4419	630.45	1.1340E+07	4.9219E+07
x(M)	0.0000	16.000	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
4	-6.1758E-03	-3.0837E-07	-1578.0	-26.425	-1242.3	-1.8686	-268.56	-0.4419	631.98	1.1340E+07	4.9219E+07
x(M)	0.0000	16.000	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
5	-6.1755E-03	-3.0838E-07	-1578.0	-26.425	-1242.2	-1.8687	-268.55	-0.4419	633.51	1.1340E+07	4.9219E+07
x(M)	0.0000	16.000	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
6	-6.1751E-03	-3.0838E-07	-1577.9	-26.425	-1242.2	-1.8688	-268.54	-0.4419	635.04	1.1340E+07	4.9219E+07
x(M)	0.0000	16.000	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
7	-6.1747E-03	-3.0839E-07	-1577.8	-26.426	-1242.1	-1.8688	-268.53	-0.4419	636.61	1.1340E+07	4.9219E+07
x(M)	0.0000	16.000	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
8	-6.1769E-03	-2.7241E-07	-1581.0	-22.111	-1239.3	-1.6341	-268.46	-0.3842	1319.3	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
9	-6.1766E-03	-2.7242E-07	-1580.9	-22.112	-1239.3	-1.6342	-268.45	-0.3842	1317.7	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
10	-6.1762E-03	-2.7243E-07	-1580.8	-22.112	-1239.2	-1.6342	-268.44	-0.3842	1316.2	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
11	-6.1758E-03	-2.7244E-07	-1580.8	-22.113	-1239.2	-1.6343	-268.43	-0.3842	1314.6	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
12	-6.1755E-03	-2.7245E-07	-1580.7	-22.113	-1239.1	-1.6343	-268.42	-0.3842	1313.1	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
13	-6.1751E-03	-2.7246E-07	-1580.6	-22.113	-1239.1	-1.6344	-268.41	-0.3842	1311.6	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
14	-6.1747E-03	-2.7247E-07	-1580.5	-22.114	-1239.0	-1.6345	-268.40	-0.3841	1310.0	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
15	-6.1746E-03	-1.9561E-07	-3441.8	-9.4847	-2115.6	-0.6031	-326.65	-0.3483	385.87	4.9219E+07	1.1340E+07
x(M)	0.0000	14.000	10.500	0.0000	0.0000	12.000	5.5000	15.000	50.000	0.0000	0.0000
16	-6.1746E-03	-1.9162E-07	-3442.4	-9.2105	-2115.2	-0.5893	-326.65	-0.3403	26.109	4.9219E+07	1.1340E+07
x(M)	0.0000	14.000	10.500	0.0000	0.0000	12.000	5.5000	15.000	50.000	0.0000	0.0000
17	-6.1746E-03	-1.8761E-07	-3442.9	-8.9364	-2114.8	-0.5755	-326.64	-0.3323	334.99	4.9219E+07	1.1340E+07



APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandataria

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	198 di 260

x( M)	18.000	0.0000	0.0000	7.5000	15.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
23	7.8348E-05	1.5015E-05	9685.7	3.3017	491.29	2.5808	247.49	0.5639	6763.9	4.9219E+07	1.1340E+07
x( M)	18.000	0.0000	0.0000	7.5000	15.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
24	7.8411E-05	1.4650E-05	9685.9	3.2215	491.42	2.5059	247.53	0.5485	7125.2	4.9219E+07	1.1340E+07
x( M)	18.000	0.0000	0.0000	7.5000	15.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
25	6.2499E-05	7.8208E-06	1.0822E+04	3.0077	1510.4	1.9723	413.09	1.2239	7280.2	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
26	6.2510E-05	7.4556E-06	1.0822E+04	2.8442	1510.6	1.8494	413.17	1.1478	6798.2	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
27	6.2521E-05	7.0903E-06	1.0822E+04	2.6806	1510.9	1.7266	413.24	1.0717	7223.5	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
28	6.2533E-05	6.7251E-06	1.0821E+04	2.5171	1511.1	1.6039	413.32	0.9956	7709.5	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
29	6.2544E-05	6.3598E-06	1.0821E+04	2.3534	1511.3	1.4814	413.39	0.9196	8189.1	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
30	6.2508E-05	7.8208E-06	1.0824E+04	3.0076	1510.7	1.9722	413.16	1.2238	7277.4	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
31	6.2520E-05	7.4556E-06	1.0824E+04	2.8441	1510.9	1.8493	413.23	1.1477	6795.4	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
32	6.2531E-05	7.0903E-06	1.0824E+04	2.6806	1511.1	1.7265	413.30	1.0716	7228.9	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
33	6.2542E-05	6.7251E-06	1.0824E+04	2.5170	1511.3	1.6038	413.38	0.9956	7715.0	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
34	6.2553E-05	6.3598E-06	1.0823E+04	2.3534	1511.6	1.4813	413.45	0.9195	8194.1	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
Max.	1.2138E-04	1.6366E-05	1.0824E+04	11.996	1511.6	6.1365	413.45	1.4982	1.3154E+04	4.9219E+07	4.9219E+07
File N.	8	1	30	6	34	7	34	7	8	15	1

LOAD CASE : 15  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
38265.0	-45761.0	-21374.3
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
-17796.4	-85214.6	-2.95676E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
3.47690E-04	-3.47014E-03	-2.18319E-03
ANGLE ROT. X, RAD	ANGLE ROT. Y, RAD	ANGLE ROT. Z, RAD
-2.30564E-05	-6.08687E-05	5.57975E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
*****	*****	*****	*****	*****	*****	*****
1	-5.3943E-04	-3.2852E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
2	-3.7387E-04	-3.3479E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
3	-2.1256E-04	-3.4090E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
4	-5.1261E-05	-3.4701E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
5	1.1004E-04	-3.5312E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
6	2.7134E-04	-3.5923E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
7	4.3691E-04	-3.6550E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
8	2.5847E-04	-3.2852E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
9	4.2404E-04	-3.3479E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
10	5.8534E-04	-3.4090E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
11	7.4664E-04	-3.4701E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
12	9.0794E-04	-3.5312E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
13	1.0693E-03	-3.5923E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
14	1.2348E-03	-3.6550E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
15	5.8456E-04	-3.6719E-03	-2.3054E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
16	7.3243E-04	-3.6719E-03	-2.2443E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
17	8.8029E-04	-3.6719E-03	-2.1832E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
18	1.0282E-03	-3.6719E-03	-2.1221E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
19	1.1760E-03	-3.6719E-03	-2.0610E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
20	-4.8064E-04	-3.2684E-03	-2.3054E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
21	-3.3277E-04	-3.2684E-03	-2.2443E-03	-2.3056E-05	-6.0869E-05	5.5798E-05

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTAZIONE:

Mandataria

Mandanti



PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 199 di 260
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22	-1.8491E-04	-3.2684E-03	-2.1832E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
23	-3.7047E-05	-3.2684E-03	-2.1221E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
24	1.1082E-04	-3.2684E-03	-2.0610E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
25	2.1327E-04	-2.7501E-03	-1.4532E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
26	3.6113E-04	-2.7501E-03	-1.3921E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
27	5.0899E-04	-2.7501E-03	-1.3310E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
28	6.5686E-04	-2.7501E-03	-1.2699E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
29	8.0472E-04	-2.7501E-03	-1.2088E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
30	-1.0934E-04	-2.6279E-03	-1.4532E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
31	3.8525E-05	-2.6279E-03	-1.3921E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
32	1.8639E-04	-2.6279E-03	-1.3310E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
33	3.3425E-04	-2.6279E-03	-1.2699E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
34	4.8211E-04	-2.6279E-03	-1.2088E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
MINIMUM	-5.3943E-04	-3.6719E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
Pile N.	1	15	1	1	1	1
MAXIMUM	1.2348E-03	-2.6279E-03	-1.2088E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
Pile N.	14	30	29	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
1	-1577.3	-742.29	-979.35	-18.731	4223.9	-2535.5
2	-1093.2	-754.70	-976.33	-18.731	4215.8	-2583.5
3	-621.55	-766.70	-973.41	-18.731	4207.9	-2630.1
4	-149.89	-778.62	-970.50	-18.731	4200.0	-2676.5
5	323.06	-790.46	-967.60	-18.731	4192.2	-2722.8
6	796.61	-802.22	-964.72	-18.731	4184.3	-2768.8
7	1282.7	-814.20	-961.77	-18.731	4176.3	-2815.9
8	758.83	-757.22	-845.60	-18.731	3574.6	-2576.6
9	1244.9	-769.57	-842.62	-18.731	3566.5	-2624.6
10	1718.4	-781.51	-839.74	-18.731	3558.7	-2671.1
11	2192.0	-793.35	-836.87	-18.731	3550.8	-2717.5
12	2665.6	-805.10	-834.02	-18.731	3543.1	-2763.6
13	3139.1	-816.77	-831.19	-18.731	3535.3	-2809.6
14	3625.2	-828.67	-828.30	-18.731	3527.4	-2856.6
15	1716.2	-1502.8	-475.45	-18.731	1603.2	-6813.4
16	2150.3	-1504.9	-462.22	-18.731	1554.9	-6819.3
17	2584.4	-1506.9	-448.94	-18.731	1506.5	-6825.2
18	3018.5	-1508.8	-435.61	-18.731	1457.9	-6831.0
19	3452.6	-1510.7	-422.22	-18.731	1409.2	-6836.7
20	-1405.4	-1369.6	-490.58	-18.731	1638.3	-6114.4
21	-973.05	-1371.8	-477.10	-18.731	1589.4	-6120.8
22	-540.69	-1374.0	-463.55	-18.731	1540.2	-6127.1
23	-108.33	-1376.1	-449.94	-18.731	1491.0	-6133.4
24	325.33	-1378.3	-436.27	-18.731	1441.6	-6139.5
25	842.62	-2072.6	-456.47	-12.334	1293.9	-8098.6
26	1426.8	-2074.7	-435.13	-12.334	1226.6	-8102.9
27	2011.0	-2076.8	-413.70	-12.334	1159.2	-8107.1
28	2595.2	-2078.8	-392.18	-12.334	1091.6	-8111.0
29	3179.5	-2080.7	-370.57	-12.334	1023.8	-8114.9
30	-428.29	-1990.1	-461.66	-12.334	1303.1	-7731.9
31	152.21	-1992.3	-440.17	-12.334	1235.5	-7736.4
32	736.42	-1994.5	-418.57	-12.334	1167.7	-7740.7
33	1320.6	-1996.6	-396.87	-12.334	1099.8	-7744.9
34	1904.8	-1998.6	-375.08	-12.334	1031.7	-7748.9
MINIMUM	-1577.3	-2080.7	-979.35	-18.731	1023.8	-8114.9
Pile N.	1	29	1	1	29	29
MAXIMUM	3625.2	-742.29	-370.57	-12.334	4223.9	-2535.5
Pile N.	14	1	29	25	1	1

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
1	-5.3943E-04	-3.2852E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
2	-3.7387E-04	-3.3479E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
3	-2.1256E-04	-3.4090E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
4	-5.1261E-05	-3.4701E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
5	1.1004E-04	-3.5312E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
6	2.7134E-04	-3.5923E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
7	4.3691E-04	-3.6550E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
8	2.5847E-04	-3.2852E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
9	4.2404E-04	-3.3479E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
10	5.8534E-04	-3.4090E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
11	7.4664E-04	-3.4701E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
12	9.0794E-04	-3.5312E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
13	1.0693E-03	-3.5923E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
14	1.2348E-03	-3.6550E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
15	5.8456E-04	-3.6719E-03	-2.3054E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
16	7.3243E-04	-3.6719E-03	-2.2443E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
17	8.8029E-04	-3.6719E-03	-2.1832E-03	-2.3056E-05	-6.0869E-05	5.5798E-05

APPALTATORE:

Consorzio

Soci



**ITINERARIO NAPOLI – BARI**

PROGETTAZIONE:

Mandatario

Mandanti



**RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA**

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 200 di 260
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18	1.0282E-03	-3.6719E-03	-2.1221E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
19	1.1760E-03	-3.6719E-03	-2.0610E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
20	-4.8064E-04	-3.2684E-03	-2.3054E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
21	-3.3277E-04	-3.2684E-03	-2.2443E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
22	-1.8491E-04	-3.2684E-03	-2.1832E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
23	-3.7047E-05	-3.2684E-03	-2.1221E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
24	1.1082E-04	-3.2684E-03	-2.0610E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
25	2.1327E-04	-2.7501E-03	-1.4532E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
26	3.6113E-04	-2.7501E-03	-1.3921E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
27	5.0899E-04	-2.7501E-03	-1.3310E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
28	6.5686E-04	-2.7501E-03	-1.2699E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
29	8.0472E-04	-2.7501E-03	-1.2088E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
30	-1.0934E-04	-2.6279E-03	-1.4532E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
31	3.8525E-05	-2.6279E-03	-1.3921E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
32	1.8639E-04	-2.6279E-03	-1.3310E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
33	3.3425E-04	-2.6279E-03	-1.2699E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
34	4.8211E-04	-2.6279E-03	-1.2088E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
MINIMUM	-5.3943E-04	-3.6719E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
Pile N.	1	15	1	1	1	1
MAXIMUM	1.2348E-03	-2.6279E-03	-1.2088E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
Pile N.	14	30	29	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
1	-1577.3	-742.29	-979.35	-18.731	4223.9	-2535.5
2	-1093.2	-754.70	-976.33	-18.731	4215.8	-2583.5
3	-621.55	-766.70	-973.41	-18.731	4207.9	-2630.1
4	-149.89	-778.62	-970.50	-18.731	4200.0	-2676.5
5	323.06	-790.46	-967.60	-18.731	4192.2	-2722.8
6	796.61	-802.22	-964.72	-18.731	4184.3	-2768.8
7	1282.7	-814.20	-961.77	-18.731	4176.3	-2815.9
8	758.83	-757.22	-845.60	-18.731	3574.6	-2576.6
9	1244.9	-769.57	-842.62	-18.731	3566.5	-2624.6
10	1718.4	-781.51	-839.74	-18.731	3558.7	-2671.1
11	2192.0	-793.35	-836.87	-18.731	3550.8	-2717.5
12	2665.6	-805.10	-834.02	-18.731	3543.1	-2763.6
13	3139.1	-816.77	-831.19	-18.731	3535.3	-2809.6
14	3625.2	-828.67	-828.30	-18.731	3527.4	-2856.6
15	1716.2	-1502.8	-475.45	-18.731	1603.2	-6813.4
16	2150.3	-1504.9	-462.22	-18.731	1554.9	-6819.3
17	2584.4	-1506.9	-448.94	-18.731	1506.5	-6825.2
18	3018.5	-1508.8	-435.61	-18.731	1457.9	-6831.0
19	3452.6	-1510.7	-422.22	-18.731	1409.2	-6836.7
20	-1405.4	-1369.6	-490.58	-18.731	1638.3	-6114.4
21	-973.05	-1371.8	-477.10	-18.731	1589.4	-6120.8
22	-540.69	-1374.0	-463.55	-18.731	1540.2	-6127.1
23	-108.33	-1376.1	-449.94	-18.731	1491.0	-6133.4
24	325.33	-1378.3	-436.27	-18.731	1441.6	-6139.5
25	842.62	-2072.6	-456.47	-12.334	1293.9	-8098.6
26	1426.8	-2074.7	-435.13	-12.334	1226.6	-8102.9
27	2011.0	-2076.8	-413.70	-12.334	1159.2	-8107.1
28	2595.2	-2078.8	-392.18	-12.334	1091.6	-8111.0
29	3179.5	-2080.7	-370.57	-12.334	1023.8	-8114.9
30	-428.29	-1990.1	-461.66	-12.334	1303.1	-7731.9
31	152.21	-1992.3	-440.17	-12.334	1235.5	-7736.4
32	736.42	-1994.5	-418.57	-12.334	1167.7	-7740.7
33	1320.6	-1996.6	-396.87	-12.334	1099.8	-7744.9
34	1904.8	-1998.6	-375.08	-12.334	1031.7	-7748.9
MINIMUM	-1577.3	-2080.7	-979.35	-18.731	1023.8	-8114.9
Pile N.	1	29	1	1	29	29
MAXIMUM	3625.2	-742.29	-370.57	-12.334	4223.9	-2535.5
Pile N.	14	1	29	25	1	1

PILE GROUP	STRESS, KN/ M**2
1	7897.8
2	7856.5
3	7816.1
4	7775.5
5	7949.7
6	8223.9
7	8505.1
8	7595.5
9	7880.2
10	8157.3
11	8434.1
12	8710.7
13	8986.9
14	9270.2
15	6662.7
16	6717.1
17	6772.7
18	6829.6
19	6888.0



<b>APPALTATORE:</b> Consorzio <span style="float: right;">Soci</span> 	<h2 style="margin: 0;">ITINERARIO NAPOLI – BARI</h2>												
<b>PROGETTAZIONE:</b> Mandataria <span style="float: right;">Mandanti</span> 	<h2 style="margin: 0;">RADDOPPIO TRATTA APICE – ORSARA I LOTTO FUNZIONALE APICE – HIRPINIA</h2>												
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">COMMESSA</td> <td style="width: 15%;">LOTTO</td> <td style="width: 15%;">CODIFICA</td> <td style="width: 15%;">DOCUMENTO</td> <td style="width: 15%;">REV.</td> <td style="width: 15%;">FOGLIO</td> </tr> <tr> <td>IF1N</td> <td>01 E ZZ</td> <td>RG</td> <td>MD0000 001</td> <td>B</td> <td>201 di 260</td> </tr> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF1N	01 E ZZ	RG	MD0000 001	B	201 di 260
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO								
IF1N	01 E ZZ	RG	MD0000 001	B	201 di 260								


20 6333.6  
 21 6092.0  
 22 5851.5  
 23 5612.3  
 24 5590.8  
 25 6444.5  
 26 6539.2  
 27 6637.6  
 28 6739.7  
 29 6846.0  
 30 6134.0  
 31 5937.8  
 32 6032.0  
 33 6130.0  
 34 6232.1  
  
 MINIMUM 5590.8  
 Pile N. 24  
 MAXIMUM 9270.2  
 Pile N. 14

\* EFFECTS FOR LATERALLY LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-Dir	DISPL. z-Dir	MOMENT z-Dir	MOMENT y-Dir	SHEAR y-Dir	SHEAR z-Dir	SOIL REACT y-Dir	SOIL REACT z-Dir	TOTAL STRESS	FLEX. RIG. z-Dir	FLEX. RIG. y-Dir
	M	M	KN- M	KN- M	KN	KN	KN/ M	KN/ M	KN/ M**2	KN- M**2	KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	-3.2852E-03	-2.3480E-03	-868.06	-1588.9	-742.20	-979.31	-166.75	-162.32	525.78	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
2	-3.3479E-03	-2.3480E-03	-883.42	-1587.1	-754.64	-976.31	-169.33	-161.54	364.40	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
3	-3.4090E-03	-2.3480E-03	-898.32	-1585.3	-766.67	-973.40	-171.81	-160.78	207.18	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	10.000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
4	-3.4701E-03	-2.3480E-03	-913.16	-1583.9	-778.61	-970.50	-174.27	-160.03	49.964	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	10.000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
5	-3.5312E-03	-2.3480E-03	-927.93	-1582.5	-790.48	-967.61	-176.70	-159.28	107.69	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	10.000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
6	-3.5923E-03	-2.3480E-03	-942.65	-1581.1	-802.27	-964.73	-179.12	-158.53	265.54	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	10.000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
7	-3.6551E-03	-2.3480E-03	-957.69	-1579.7	-814.28	-961.80	-181.57	-157.77	427.56	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	10.000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
8	-3.2852E-03	-2.0183E-03	-888.10	-1402.2	-757.26	-845.61	-142.17	-171.47	252.94	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
9	-3.3479E-03	-2.0183E-03	-903.59	-1400.4	-769.64	-842.64	-174.01	-141.37	414.97	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
10	-3.4090E-03	-2.0183E-03	-918.62	-1398.6	-781.61	-839.77	-176.45	-140.61	572.82	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
11	-3.4701E-03	-2.0183E-03	-933.57	-1396.8	-793.48	-836.91	-178.87	-139.85	730.67	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
12	-3.5312E-03	-2.0183E-03	-948.46	-1394.9	-805.27	-834.06	-181.26	-139.10	888.52	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
13	-3.5923E-03	-2.0183E-03	-963.28	-1393.1	-816.97	-831.24	-183.63	-138.35	1046.4	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
14	-3.6551E-03	-2.0183E-03	-978.41	-1391.2	-828.89	-828.37	-186.04	-137.60	1208.4	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
15	-3.6719E-03	-2.3054E-03	-2313.8	-566.87	-1502.9	-475.51	-240.17	-106.39	572.06	4.9219E+07	1.1340E+07
x(M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
16	-3.6719E-03	-2.2443E-03	-2315.2	-552.09	-1504.9	-462.30	-240.67	-103.61	716.76	4.9219E+07	1.1340E+07
x(M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
17	-3.6719E-03	-2.1832E-03	-2316.6	-537.27	-1507.0	-449.03	-241.16	-100.80	861.46	4.9219E+07	1.1340E+07
x(M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
18	-3.6719E-03	-2.1221E-03	-2318.0	-522.41	-1508.9	-435.71	-241.64	-97.982	1006.2	4.9219E+07	1.1340E+07
x(M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
19	-3.6719E-03	-2.0610E-03	-2319.4	-507.51	-1510.9	-422.33	-242.11	-95.144	1150.9	4.9219E+07	1.1340E+07
x(M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
20	-3.2684E-03	-2.3054E-03	-2110.9	-580.55	-1369.5	-490.53	-222.28	-110.81	468.47	4.9219E+07	1.1340E+07
x(M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
21	-3.2684E-03	-2.2443E-03	-2112.3	-565.45	-1371.8	-477.07	-222.84	-107.97	324.35	4.9219E+07	1.1340E+07
x(M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
22	-3.2684E-03	-2.1832E-03	-2113.7	-550.29	-1374.0	-463.54	-223.40	-105.10	180.23	4.9219E+07	1.1340E+07
x(M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
23	-3.2684E-03	-2.1221E-03	-2115.0	-535.10	-1376.1	-449.94	-223.94	-102.20	36.110	4.9219E+07	1.1340E+07
x(M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
24	-3.2684E-03	-2.0610E-03	-2116.4	-519.86	-1378.3	-436.28	-224.47	-99.290	108.44	4.9219E+07	1.1340E+07
x(M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
25	-2.7501E-03	-1.4532E-03	-4107.4	-618.22	-2072.6	-456.49	-224.5	-282.40	280.87	4.9219E+07	1.1340E+07
x(M)	0.0000	0.0000	7.9200	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
26	-2.7501E-03	-1.3921E-03	-4107.8	-589.90	-2074.8	-435.16	-223.3	-268.58	475.61	4.9219E+07	1.1340E+07
x(M)	0.0000	0.0000	7.9200	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
27	-2.7501E-03	-1.3310E-03	-4108.2	-561.59	-2076.8	-413.73	-223.6	-254.76	670.34	4.9219E+07	1.1340E+07
x(M)	0.0000	0.0000	7.9200	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
28	-2.7501E-03	-1.2699E-03	-4108.6	-533.28	-2078.8	-392.22	-223.6	-240.95	865.08	4.9219E+07	1.1340E+07
x(M)	0.0000	0.0000	7.9200	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
29	-2.7501E-03	-1.2088E-03	-4109.0	-504.96	-2080.8	-370.62	-223.5	-227.15	1059.8	4.9219E+07	1.1340E+07
x(M)	0.0000	0.0000	7.9200	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
30	-2.6279E-03	-1.4532E-03	-3938.4	-620.20	-1990.1	-461.65	-1196.0	-285.31	142.76	4.9219E+07	1.1340E+07



<b>APPALTATORE:</b> Consorzio <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>	CODIFICA <b>RG</b>	DOCUMENTO <b>MD0000 001</b>	REV. <b>B</b>	FOGLIO <b>203 di 260</b>

Max.	6.2914E-05	4.1125E-05	8114.9	4223.9	1061.1	237.54	290.42	82.086	9270.2	4.9219E+07	4.9219E+07
Pile N.	14	1	29	1	29	1	29	30	14	15	1

LOAD CASE : 16  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
38265.0	-45761.0	21621.2
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
17912.4	88145.1	-2.95676E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
3.47683E-04	-3.47367E-03	2.21548E-03
ANGLE ROT. X,RAD	ANGLE ROT. Y,RAD	ANGLE ROT. Z,RAD
2.32468E-05	6.20690E-05	5.58656E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
*****	*****	*****	*****	*****	*****	*****
1	4.4604E-04	-3.6601E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
2	2.7721E-04	-3.5969E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
3	1.1273E-04	-3.5353E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
4	-5.1756E-05	-3.4737E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
5	-2.1624E-04	-3.4121E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
6	-3.8072E-04	-3.3505E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
7	-5.4955E-04	-3.2872E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
8	1.2449E-03	-3.6601E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
9	1.0761E-03	-3.5969E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
10	9.1160E-04	-3.5353E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
11	7.4712E-04	-3.4737E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
12	5.8264E-04	-3.4121E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
13	4.1816E-04	-3.3505E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
14	2.4933E-04	-3.2872E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
15	-4.9151E-04	-3.2703E-03	2.3387E-03	2.3247E-05	6.2069E-05	5.5866E-05
16	-3.4346E-04	-3.2703E-03	2.2771E-03	2.3247E-05	6.2069E-05	5.5866E-05
17	-1.9542E-04	-3.2703E-03	2.2155E-03	2.3247E-05	6.2069E-05	5.5866E-05
18	-4.7377E-05	-3.2703E-03	2.1539E-03	2.3247E-05	6.2069E-05	5.5866E-05
19	1.0067E-04	-3.2703E-03	2.0923E-03	2.3247E-05	6.2069E-05	5.5866E-05
20	5.9470E-04	-3.6771E-03	2.3387E-03	2.3247E-05	6.2069E-05	5.5866E-05
21	7.4274E-04	-3.6771E-03	2.2771E-03	2.3247E-05	6.2069E-05	5.5866E-05
22	8.9079E-04	-3.6771E-03	2.2155E-03	2.3247E-05	6.2069E-05	5.5866E-05
23	1.0388E-03	-3.6771E-03	2.1539E-03	2.3247E-05	6.2069E-05	5.5866E-05
24	1.1869E-03	-3.6771E-03	2.0923E-03	2.3247E-05	6.2069E-05	5.5866E-05
25	-1.1289E-04	-2.6299E-03	1.4697E-03	2.3247E-05	6.2069E-05	5.5866E-05
26	3.5156E-05	-2.6299E-03	1.4081E-03	2.3247E-05	6.2069E-05	5.5866E-05
27	1.8320E-04	-2.6299E-03	1.3465E-03	2.3247E-05	6.2069E-05	5.5866E-05
28	3.3124E-04	-2.6299E-03	1.2849E-03	2.3247E-05	6.2069E-05	5.5866E-05
29	4.7929E-04	-2.6299E-03	1.2233E-03	2.3247E-05	6.2069E-05	5.5866E-05
30	2.1608E-04	-2.7532E-03	1.4697E-03	2.3247E-05	6.2069E-05	5.5866E-05
31	3.6412E-04	-2.7532E-03	1.4081E-03	2.3247E-05	6.2069E-05	5.5866E-05
32	5.1216E-04	-2.7532E-03	1.3465E-03	2.3247E-05	6.2069E-05	5.5866E-05
33	6.6021E-04	-2.7532E-03	1.2849E-03	2.3247E-05	6.2069E-05	5.5866E-05
34	8.0825E-04	-2.7532E-03	1.2233E-03	2.3247E-05	6.2069E-05	5.5866E-05
MINIMUM	-5.4955E-04	-3.6771E-03	1.2233E-03	2.3247E-05	6.2069E-05	5.5866E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.2449E-03	-2.6299E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	1309.5	-813.71	972.46	18.886	-4222.9	-2815.7
2	813.83	-801.62	975.43	18.886	-4231.0	-2768.2
3	330.94	-789.77	978.34	18.886	-4238.8	-2721.8

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTAZIONE:

Mandataria

Mandanti



PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF1N 01 E ZZ RG MD0000 001 B 204 di 260

4	-151.34	-777.84	981.26	18.886	-4246.7	-2675.2
5	-632.30	-765.82	984.20	18.886	-4254.7	-2628.4
6	-1113.3	-753.72	987.15	18.886	-4262.6	-2581.4
7	-1606.9	-741.21	990.18	18.886	-4270.8	-2533.0
8	3654.8	-828.29	838.45	18.886	-3570.5	-2856.7
9	3159.2	-816.30	841.36	18.886	-3578.5	-2809.3
10	2676.3	-804.54	844.22	18.886	-3586.3	-2763.0
11	2193.4	-792.69	847.11	18.886	-3594.1	-2716.4
12	1710.5	-780.75	850.01	18.886	-3602.0	-2669.7
13	1227.6	-768.71	852.92	18.886	-3610.0	-2622.8
14	731.98	-756.26	855.93	18.886	-3618.1	-2574.4
15	-1437.2	-1368.9	496.83	18.886	-1659.3	-6113.5
16	-1004.3	-1371.2	483.27	18.886	-1610.0	-6120.0
17	-571.42	-1373.4	469.65	18.886	-1560.5	-6126.4
18	-138.53	-1375.6	455.96	18.886	-1510.9	-6132.7
19	295.54	-1377.8	442.20	18.886	-1461.2	-6139.0
20	1745.9	-1503.3	481.46	18.886	-1623.6	-6818.3
21	2180.6	-1505.4	468.15	18.886	-1575.0	-6824.3
22	2615.2	-1507.4	454.79	18.886	-1526.2	-6830.3
23	3049.8	-1509.4	441.38	18.886	-1477.3	-6836.2
24	3484.4	-1511.3	427.91	18.886	-1428.3	-6842.0
25	-442.20	-1990.7	466.02	12.436	-1314.6	-7735.8
26	138.90	-1993.0	444.37	12.436	-1246.5	-7740.3
27	723.82	-1995.2	422.62	12.436	-1178.2	-7744.7
28	1308.7	-1997.3	400.77	12.436	-1109.7	-7748.9
29	1893.7	-1999.4	378.83	12.436	-1041.1	-7753.0
30	853.73	-2073.9	460.75	12.436	-1305.3	-8105.5
31	1438.6	-2076.1	439.26	12.436	-1237.4	-8109.8
32	2023.6	-2078.2	417.68	12.436	-1169.5	-8114.0
33	2608.5	-2080.2	396.00	12.436	-1101.4	-8118.1
34	3193.4	-2082.1	374.24	12.436	-1033.1	-8122.0
MINIMUM	-1606.9	-2082.1	374.24	12.436	-4270.8	-8122.0
Pile N.	7	34	34	25	7	34
MAXIMUM	3654.8	-741.21	990.18	18.886	-1033.1	-2533.0
Pile N.	8	7	7	1	34	7







THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
1	4.4604E-04	-3.6601E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
2	2.7721E-04	-3.5969E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
3	1.1273E-04	-3.5353E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
4	-5.1756E-05	-3.4737E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
5	-2.1624E-04	-3.4121E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
6	-3.8072E-04	-3.3505E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
7	-5.4955E-04	-3.2872E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
8	1.2449E-03	-3.6601E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
9	1.0761E-03	-3.5969E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
10	9.1160E-04	-3.5353E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
11	7.4712E-04	-3.4737E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
12	5.8264E-04	-3.4121E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
13	4.1816E-04	-3.3505E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
14	2.4933E-04	-3.2872E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
15	-4.9151E-04	-3.2703E-03	2.3387E-03	2.3247E-05	6.2069E-05	5.5866E-05
16	-3.4346E-04	-3.2703E-03	2.2771E-03	2.3247E-05	6.2069E-05	5.5866E-05
17	-1.9542E-04	-3.2703E-03	2.2155E-03	2.3247E-05	6.2069E-05	5.5866E-05
18	-4.7377E-05	-3.2703E-03	2.1539E-03	2.3247E-05	6.2069E-05	5.5866E-05
19	1.0067E-04	-3.2703E-03	2.0923E-03	2.3247E-05	6.2069E-05	5.5866E-05
20	5.9470E-04	-3.6771E-03	2.3387E-03	2.3247E-05	6.2069E-05	5.5866E-05
21	7.4274E-04	-3.6771E-03	2.2771E-03	2.3247E-05	6.2069E-05	5.5866E-05
22	8.9079E-04	-3.6771E-03	2.2155E-03	2.3247E-05	6.2069E-05	5.5866E-05
23	1.0388E-03	-3.6771E-03	2.1539E-03	2.3247E-05	6.2069E-05	5.5866E-05
24	1.1869E-03	-3.6771E-03	2.0923E-03	2.3247E-05	6.2069E-05	5.5866E-05
25	-1.1289E-04	-2.6299E-03	1.4697E-03	2.3247E-05	6.2069E-05	5.5866E-05
26	3.5156E-05	-2.6299E-03	1.4081E-03	2.3247E-05	6.2069E-05	5.5866E-05
27	1.8320E-04	-2.6299E-03	1.3465E-03	2.3247E-05	6.2069E-05	5.5866E-05
28	3.3124E-04	-2.6299E-03	1.2849E-03	2.3247E-05	6.2069E-05	5.5866E-05
29	4.7929E-04	-2.6299E-03	1.2233E-03	2.3247E-05	6.2069E-05	5.5866E-05
30	2.1608E-04	-2.7532E-03	1.4697E-03	2.3247E-05	6.2069E-05	5.5866E-05
31	3.6412E-04	-2.7532E-03	1.4081E-03	2.3247E-05	6.2069E-05	5.5866E-05
32	5.1216E-04	-2.7532E-03	1.3465E-03	2.3247E-05	6.2069E-05	5.5866E-05
33	6.6021E-04	-2.7532E-03	1.2849E-03	2.3247E-05	6.2069E-05	5.5866E-05
34	8.0825E-04	-2.7532E-03	1.2233E-03	2.3247E-05	6.2069E-05	5.5866E-05
MINIMUM	-5.4955E-04	-3.6771E-03	1.2233E-03	2.3247E-05	6.2069E-05	5.5866E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.2449E-03	-2.6299E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
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<b>APPALTATORE:</b> Consorzio <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>	CODIFICA <b>RG</b>	DOCUMENTO <b>MD0000 001</b>	REV. <b>B</b>	FOGLIO <b>205 di 260</b>

*****	*****	*****	*****	*****	*****	*****
1	1309.5	-813.71	972.46	18.886	-4222.9	-2815.7
2	813.83	-801.62	975.43	18.886	-4231.0	-2768.2
3	330.94	-789.77	978.34	18.886	-4238.8	-2721.8
4	-151.34	-777.84	981.26	18.886	-4246.7	-2675.2
5	-632.30	-765.82	984.20	18.886	-4254.7	-2628.4
6	-1113.3	-753.72	987.15	18.886	-4262.6	-2581.4
7	-1606.9	-741.21	990.18	18.886	-4270.8	-2533.0
8	3654.8	-828.29	838.45	18.886	-3570.5	-2856.7
9	3159.2	-816.30	841.36	18.886	-3578.5	-2809.3
10	2676.3	-804.54	844.22	18.886	-3586.3	-2763.0
11	2193.4	-792.69	847.11	18.886	-3594.1	-2716.4
12	1710.5	-780.75	850.01	18.886	-3602.0	-2669.7
13	1227.6	-768.71	852.92	18.886	-3610.0	-2622.8
14	731.98	-756.26	855.93	18.886	-3618.1	-2574.4
15	-1437.2	-1368.9	496.83	18.886	-1659.3	-6113.5
16	-1004.3	-1371.2	483.27	18.886	-1610.0	-6120.0
17	-571.42	-1373.4	469.65	18.886	-1560.5	-6126.4
18	-138.53	-1375.6	455.96	18.886	-1510.9	-6132.7
19	295.54	-1377.8	442.20	18.886	-1461.2	-6139.0
20	1745.9	-1503.3	481.46	18.886	-1623.6	-6818.3
21	2180.6	-1505.4	468.15	18.886	-1575.0	-6824.3
22	2615.2	-1507.4	454.79	18.886	-1526.2	-6830.3
23	3049.8	-1509.4	441.38	18.886	-1477.3	-6836.2
24	3484.4	-1511.3	427.91	18.886	-1428.3	-6842.0
25	-442.20	-1990.7	466.02	12.436	-1314.6	-7735.8
26	138.90	-1993.0	444.37	12.436	-1246.5	-7740.3
27	723.82	-1995.2	422.62	12.436	-1178.2	-7744.7
28	1308.7	-1997.3	400.77	12.436	-1109.7	-7748.9
29	1893.7	-1999.4	378.83	12.436	-1041.1	-7753.0
30	853.73	-2073.9	460.75	12.436	-1305.3	-8105.5
31	1438.6	-2076.1	439.26	12.436	-1237.4	-8109.8
32	2023.6	-2078.2	417.68	12.436	-1169.5	-8114.0
33	2608.5	-2080.2	396.00	12.436	-1101.4	-8118.1
34	3193.4	-2082.1	374.24	12.436	-1033.1	-8122.0
MINIMUM	-1606.9	-2082.1	374.24	12.436	-4270.8	-8122.0
Pile N.	7	34	34	25	7	34
MAXIMUM	3654.8	-741.21	990.18	18.886	-1033.1	-2533.0
Pile N.	8	7	7	1	34	7

PILE GROUP STRESS, KN/ M\*\*2  
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1	8523.0
2	8237.8
3	7959.7
4	7782.6
5	7825.5
6	7868.3
7	7912.0
8	9287.8
9	9000.5
10	8720.3
11	8439.8
12	8159.0
13	7878.0
14	7589.3
15	6387.1
16	6144.1
17	5902.2
18	5661.5
19	5618.7
20	6714.5
21	6767.8
22	6822.4
23	6878.3
24	6935.7
25	6159.0
26	5952.4
27	6045.4
28	6142.3
29	6243.4
30	6469.3
31	6562.9
32	6660.2
33	6761.4
34	6866.7
MINIMUM	5618.7
Pile N.	19
MAXIMUM	9287.8
Pile N.	8

\* EFFECTS FOR LATERALLY LOADED PILE \*  
\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL.	DISPL.	MOMENT	MOMENT	SHEAR	SHEAR	SOIL REACT	SOIL REACT	TOTAL	FLEX. RIG.	FLEX. RIG.
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APPALTATORE: <b>Consorzio</b> <b>Soci</b>		<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>								
  										
PROGETTAZIONE: <b>Mandatario</b> <b>Mandanti</b>										
  										
PROGETTO ESECUTIVO <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 207 di 260			

x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
5	5.6461E-05	2.3817E-03	2628.4	1604.0	169.50	984.19	40.252	162.49	7825.5	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
6	5.5289E-05	2.3817E-03	2581.4	1605.5	166.69	987.12	39.801	163.26	7868.3	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
7	5.4087E-05	2.3817E-03	2533.0	1607.4	163.79	990.15	39.332	164.04	7912.0	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
8	6.2905E-05	2.0493E-03	2856.7	1408.8	187.50	838.51	42.402	139.25	9287.8	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
9	6.1645E-05	2.0493E-03	2809.3	1410.7	184.59	841.42	41.928	140.02	9000.5	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
10	6.0418E-05	2.0493E-03	2763.0	1412.6	181.74	844.27	41.462	140.77	8720.3	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
11	5.9191E-05	2.0493E-03	2716.4	1414.4	178.88	847.15	40.990	141.53	8439.8	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
12	5.7966E-05	2.0493E-03	2669.7	1416.3	176.01	850.04	40.512	142.29	8159.0	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
13	5.6741E-05	2.0493E-03	2622.8	1418.1	173.12	852.94	40.048	143.06	7878.0	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.000	5.5000	0.0000	0.0000	0.0000
14	5.5486E-05	2.0493E-03	2574.4	1420.0	170.14	855.94	39.618	143.86	7589.3	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.000	5.5000	0.0000	0.0000	0.0000
15	5.4999E-05	2.3387E-03	6113.5	588.53	310.90	496.78	116.16	112.20	6387.1	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
16	5.5146E-05	2.2771E-03	6120.0	573.32	311.30	483.24	116.15	109.33	6144.1	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
17	5.5295E-05	2.2155E-03	6126.4	558.07	311.69	469.63	116.15	106.45	5902.2	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
18	5.5446E-05	2.1539E-03	6132.7	542.77	312.08	455.95	116.15	103.55	5661.5	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
19	5.5599E-05	2.0923E-03	6139.0	527.43	312.47	442.21	116.16	100.62	5618.7	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
20	5.9622E-05	2.3387E-03	6818.3	574.61	339.85	481.52	137.95	107.71	6714.5	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
21	5.9800E-05	2.2771E-03	6824.3	559.73	340.32	468.23	137.98	104.91	6767.8	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
22	5.9980E-05	2.2155E-03	6830.3	544.80	340.79	454.88	138.02	102.09	6822.4	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
23	6.0162E-05	2.1539E-03	6836.2	529.84	341.26	441.48	138.06	99.258	6878.3	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
24	6.0346E-05	2.0923E-03	6842.0	514.84	341.74	428.02	138.11	96.406	6935.7	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
25	4.2714E-05	1.4697E-03	7735.8	626.77	1017.9	466.01	278.18	288.15	6159.0	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
26	4.2722E-05	1.4081E-03	7740.3	598.11	1018.0	444.37	278.20	274.06	5952.4	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
27	4.2730E-05	1.3465E-03	7744.7	569.45	1018.2	422.64	278.21	259.98	6045.4	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
28	4.2738E-05	1.2849E-03	7748.9	540.79	1018.3	400.80	278.22	245.91	6142.3	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
29	4.2745E-05	1.2233E-03	7753.0	512.14	1018.4	378.86	278.23	231.83	6243.4	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
30	4.4467E-05	1.4697E-03	8105.5	624.75	1061.6	460.76	290.64	285.18	6469.3	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
31	4.4476E-05	1.4081E-03	8109.8	596.20	1061.7	439.29	290.66	271.25	6562.9	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
32	4.4485E-05	1.3465E-03	8114.0	567.65	1061.8	417.71	290.68	257.32	6660.2	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
33	4.4493E-05	1.2849E-03	8118.1	539.11	1062.0	396.05	290.70	243.40	6761.4	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
34	4.4501E-05	1.2233E-03	8122.0	510.56	1062.1	374.29	290.71	229.48	6866.7	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
Max.	6.2905E-05	2.3817E-03	8122.0	1607.4	1062.1	990.15	290.71	288.15	9287.8	4.9219E+07	4.9219E+07
Pile N.	8	1	34	7	34	7	34	25	8	15	1

LOAD CASE : 17  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN    HOR. LOAD Y, KN    HOR. LOAD Z, KN  
31812.8                    -51966.4                    123.441

MOMENT X , KN- M    MOMENT Y, KN- M    MOMENT Z, KN- M  
70.5045                    1450.68                    -2.70216E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

<b>APPALTATORE:</b> Consorzio <span style="float: right;">Soci</span>   		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>						
<b>PROGETTAZIONE:</b> Mandataria <span style="float: right;">Mandanti</span>   		COMMESSA		LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		IF1N		01 E ZZ	RG	MD0000 001	B	208 di 260

VERTICAL , M                      HORIZONTAL Y, M                      HORIZONTAL Z, M  
 2.88972E-04                      -4.12299E-03                      1.38284E-05  
  
 ANGLE ROT. X,RAD                      ANGLE ROT. Y,RAD                      ANGLE ROT. Z,RAD  
 8.55219E-08                      5.71865E-07                      7.91829E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
*****	*****	*****	*****	*****	*****	*****
1	-2.7260E-04	-4.1237E-03	1.4440E-05	8.5522E-08	5.7186E-07	7.9183E-05
2	-2.7415E-04	-4.1234E-03	1.4440E-05	8.5522E-08	5.7186E-07	7.9183E-05
3	-2.7567E-04	-4.1232E-03	1.4440E-05	8.5522E-08	5.7186E-07	7.9183E-05
4	-2.7719E-04	-4.1230E-03	1.4440E-05	8.5522E-08	5.7186E-07	7.9183E-05
5	-2.7870E-04	-4.1228E-03	1.4440E-05	8.5522E-08	5.7186E-07	7.9183E-05
6	-2.8022E-04	-4.1225E-03	1.4440E-05	8.5522E-08	5.7186E-07	7.9183E-05
7	-2.8177E-04	-4.1223E-03	1.4440E-05	8.5522E-08	5.7186E-07	7.9183E-05
8	8.5972E-04	-4.1237E-03	1.3217E-05	8.5522E-08	5.7186E-07	7.9183E-05
9	8.5816E-04	-4.1234E-03	1.3217E-05	8.5522E-08	5.7186E-07	7.9183E-05
10	8.5665E-04	-4.1232E-03	1.3217E-05	8.5522E-08	5.7186E-07	7.9183E-05
11	8.5513E-04	-4.1230E-03	1.3217E-05	8.5522E-08	5.7186E-07	7.9183E-05
12	8.5361E-04	-4.1228E-03	1.3217E-05	8.5522E-08	5.7186E-07	7.9183E-05
13	8.5210E-04	-4.1225E-03	1.3217E-05	8.5522E-08	5.7186E-07	7.9183E-05
14	8.5054E-04	-4.1223E-03	1.3217E-05	8.5522E-08	5.7186E-07	7.9183E-05
15	-1.3570E-04	-4.1222E-03	1.4282E-05	8.5522E-08	5.7186E-07	7.9183E-05
16	7.4134E-05	-4.1222E-03	1.4055E-05	8.5522E-08	5.7186E-07	7.9183E-05
17	2.8397E-04	-4.1222E-03	1.3828E-05	8.5522E-08	5.7186E-07	7.9183E-05
18	4.9380E-04	-4.1222E-03	1.3602E-05	8.5522E-08	5.7186E-07	7.9183E-05
19	7.0364E-04	-4.1222E-03	1.3375E-05	8.5522E-08	5.7186E-07	7.9183E-05
20	-1.2569E-04	-4.1237E-03	1.4282E-05	8.5522E-08	5.7186E-07	7.9183E-05
21	8.4141E-05	-4.1237E-03	1.4055E-05	8.5522E-08	5.7186E-07	7.9183E-05
22	2.9398E-04	-4.1237E-03	1.3828E-05	8.5522E-08	5.7186E-07	7.9183E-05
23	5.0381E-04	-4.1237E-03	1.3602E-05	8.5522E-08	5.7186E-07	7.9183E-05
24	7.1365E-04	-4.1237E-03	1.3375E-05	8.5522E-08	5.7186E-07	7.9183E-05
25	-1.3221E-04	-3.0142E-03	6.2756E-06	8.5522E-08	5.7186E-07	7.9183E-05
26	7.7622E-05	-3.0142E-03	6.0489E-06	8.5522E-08	5.7186E-07	7.9183E-05
27	2.8746E-04	-3.0142E-03	5.8223E-06	8.5522E-08	5.7186E-07	7.9183E-05
28	4.9729E-04	-3.0142E-03	5.5957E-06	8.5522E-08	5.7186E-07	7.9183E-05
29	7.0713E-04	-3.0142E-03	5.3690E-06	8.5522E-08	5.7186E-07	7.9183E-05
30	-1.2918E-04	-3.0146E-03	6.2756E-06	8.5522E-08	5.7186E-07	7.9183E-05
31	8.0653E-05	-3.0146E-03	6.0489E-06	8.5522E-08	5.7186E-07	7.9183E-05
32	2.9049E-04	-3.0146E-03	5.8223E-06	8.5522E-08	5.7186E-07	7.9183E-05
33	5.0032E-04	-3.0146E-03	5.5957E-06	8.5522E-08	5.7186E-07	7.9183E-05
34	7.1016E-04	-3.0146E-03	5.3690E-06	8.5522E-08	5.7186E-07	7.9183E-05
MINIMUM	-2.8177E-04	-4.1237E-03	5.3690E-06	8.5522E-08	5.7186E-07	7.9183E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	8.5972E-04	-3.0142E-03	1.4440E-05	8.5522E-08	5.7186E-07	7.9183E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	-797.10	-959.21	6.1691	0.069478	-25.289	-3265.1
2	-801.65	-959.17	6.1693	0.069478	-25.289	-3264.9
3	-806.08	-959.13	6.1694	0.069478	-25.290	-3264.7
4	-810.51	-959.10	6.1695	0.069478	-25.290	-3264.6
5	-814.94	-959.06	6.1696	0.069478	-25.290	-3264.4
6	-819.37	-959.02	6.1697	0.069478	-25.291	-3264.3
7	-823.92	-958.98	6.1699	0.069478	-25.291	-3264.1
8	2524.0	-957.74	5.5267	0.069478	-22.333	-3265.1
9	2519.4	-957.70	5.5268	0.069478	-22.333	-3264.9
10	2514.9	-957.66	5.5269	0.069478	-22.333	-3264.8
11	2510.5	-957.63	5.5270	0.069478	-22.334	-3264.6
12	2506.0	-957.59	5.5271	0.069478	-22.334	-3264.4
13	2501.6	-957.55	5.5272	0.069478	-22.334	-3264.3
14	2497.0	-957.51	5.5273	0.069478	-22.334	-3264.1
15	-396.80	-1650.1	2.7981	0.069478	-9.0215	-7372.9
16	217.64	-1649.9	2.7454	0.069478	-8.8365	-7373.0
17	833.68	-1649.7	2.6927	0.069478	-8.6516	-7373.0
18	1449.7	-1649.5	2.6400	0.069478	-8.4666	-7373.1
19	2065.7	-1649.3	2.5874	0.069478	-8.2816	-7373.2
20	-367.54	-1650.5	2.7977	0.069478	-9.0207	-7375.4
21	247.02	-1650.3	2.7450	0.069478	-8.8358	-7375.4
22	863.06	-1650.1	2.6923	0.069478	-8.6508	-7375.5
23	1479.1	-1649.9	2.6397	0.069478	-8.4659	-7375.6
24	2095.1	-1649.7	2.5870	0.069478	-8.2809	-7375.6
25	-517.89	-2205.4	1.6292	0.045751	-3.8735	-8480.3
26	306.69	-2205.2	1.5466	0.045751	-3.6195	-8480.3
27	1135.7	-2204.9	1.4640	0.045751	-3.3655	-8480.2
28	1964.8	-2204.6	1.3815	0.045751	-3.1116	-8480.2
29	2793.9	-2204.3	1.2990	0.045751	-2.8576	-8480.1



<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>							COMMESSA IF1N

30	-506.02	-2205.7	1.6292	0.045751	-3.8734	-8481.7
31	318.66	-2205.4	1.5465	0.045751	-3.6194	-8481.6
32	1147.7	-2205.2	1.4640	0.045751	-3.3654	-8481.5
33	1976.8	-2204.9	1.3814	0.045751	-3.1114	-8481.5
34	2805.8	-2204.6	1.2989	0.045751	-2.8575	-8481.4
MINIMUM	-823.92	-2205.7	1.2989	0.045751	-25.291	-8481.7
Pile N.	7	30	34	25	6	30
MAXIMUM	2805.8	-957.51	6.1699	0.069478	-2.8575	-3264.1
Pile N.	34	14	7	1	34	7

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
1	-2.7260E-04	-4.1237E-03	1.4440E-05	8.5522E-08	5.7186E-07	7.9183E-05
2	-2.7415E-04	-4.1234E-03	1.4440E-05	8.5522E-08	5.7186E-07	7.9183E-05
3	-2.7567E-04	-4.1232E-03	1.4440E-05	8.5522E-08	5.7186E-07	7.9183E-05
4	-2.7719E-04	-4.1230E-03	1.4440E-05	8.5522E-08	5.7186E-07	7.9183E-05
5	-2.7870E-04	-4.1228E-03	1.4440E-05	8.5522E-08	5.7186E-07	7.9183E-05
6	-2.8022E-04	-4.1225E-03	1.4440E-05	8.5522E-08	5.7186E-07	7.9183E-05
7	-2.8177E-04	-4.1223E-03	1.4440E-05	8.5522E-08	5.7186E-07	7.9183E-05
8	8.5972E-04	-4.1237E-03	1.3217E-05	8.5522E-08	5.7186E-07	7.9183E-05
9	8.5816E-04	-4.1234E-03	1.3217E-05	8.5522E-08	5.7186E-07	7.9183E-05
10	8.5665E-04	-4.1232E-03	1.3217E-05	8.5522E-08	5.7186E-07	7.9183E-05
11	8.5513E-04	-4.1230E-03	1.3217E-05	8.5522E-08	5.7186E-07	7.9183E-05
12	8.5361E-04	-4.1228E-03	1.3217E-05	8.5522E-08	5.7186E-07	7.9183E-05
13	8.5210E-04	-4.1225E-03	1.3217E-05	8.5522E-08	5.7186E-07	7.9183E-05
14	8.5054E-04	-4.1223E-03	1.3217E-05	8.5522E-08	5.7186E-07	7.9183E-05
15	-1.3570E-04	-4.1222E-03	1.4282E-05	8.5522E-08	5.7186E-07	7.9183E-05
16	-7.4134E-05	-4.1222E-03	1.4055E-05	8.5522E-08	5.7186E-07	7.9183E-05
17	2.8397E-04	-4.1222E-03	1.3828E-05	8.5522E-08	5.7186E-07	7.9183E-05
18	4.9380E-04	-4.1222E-03	1.3602E-05	8.5522E-08	5.7186E-07	7.9183E-05
19	7.0364E-04	-4.1222E-03	1.3375E-05	8.5522E-08	5.7186E-07	7.9183E-05
20	-1.2569E-04	-4.1237E-03	1.4282E-05	8.5522E-08	5.7186E-07	7.9183E-05
21	8.4141E-05	-4.1237E-03	1.4055E-05	8.5522E-08	5.7186E-07	7.9183E-05
22	2.9398E-04	-4.1237E-03	1.3828E-05	8.5522E-08	5.7186E-07	7.9183E-05
23	5.0381E-04	-4.1237E-03	1.3602E-05	8.5522E-08	5.7186E-07	7.9183E-05
24	7.1365E-04	-4.1237E-03	1.3375E-05	8.5522E-08	5.7186E-07	7.9183E-05
25	-1.3221E-04	-3.0142E-03	6.2756E-06	8.5522E-08	5.7186E-07	7.9183E-05
26	7.7622E-05	-3.0142E-03	6.0489E-06	8.5522E-08	5.7186E-07	7.9183E-05
27	2.8746E-04	-3.0142E-03	5.8223E-06	8.5522E-08	5.7186E-07	7.9183E-05
28	4.9729E-04	-3.0142E-03	5.5957E-06	8.5522E-08	5.7186E-07	7.9183E-05
29	7.0713E-04	-3.0142E-03	5.3690E-06	8.5522E-08	5.7186E-07	7.9183E-05
30	-1.2918E-04	-3.0146E-03	6.2756E-06	8.5522E-08	5.7186E-07	7.9183E-05
31	8.0653E-05	-3.0146E-03	6.0489E-06	8.5522E-08	5.7186E-07	7.9183E-05
32	2.9049E-04	-3.0146E-03	5.8223E-06	8.5522E-08	5.7186E-07	7.9183E-05
33	5.0032E-04	-3.0146E-03	5.5957E-06	8.5522E-08	5.7186E-07	7.9183E-05
34	7.1016E-04	-3.0146E-03	5.3690E-06	8.5522E-08	5.7186E-07	7.9183E-05
MINIMUM	-2.8177E-04	-4.1237E-03	5.3690E-06	8.5522E-08	5.7186E-07	7.9183E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	8.5972E-04	-3.0142E-03	1.4440E-05	8.5522E-08	5.7186E-07	7.9183E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	-797.10	-959.21	6.1691	0.069478	-25.289	-3265.1
2	-801.65	-959.17	6.1693	0.069478	-25.289	-3264.9
3	-806.08	-959.13	6.1694	0.069478	-25.290	-3264.7
4	-810.51	-959.10	6.1695	0.069478	-25.290	-3264.6
5	-814.94	-959.06	6.1696	0.069478	-25.290	-3264.4
6	-819.37	-959.02	6.1697	0.069478	-25.291	-3264.3
7	-823.92	-958.98	6.1699	0.069478	-25.291	-3264.1
8	2524.0	-957.74	5.5267	0.069478	-22.333	-3265.1
9	2519.4	-957.70	5.5268	0.069478	-22.333	-3264.9
10	2514.9	-957.66	5.5269	0.069478	-22.333	-3264.8
11	2510.5	-957.63	5.5270	0.069478	-22.334	-3264.6
12	2506.0	-957.59	5.5271	0.069478	-22.334	-3264.4
13	2501.6	-957.55	5.5272	0.069478	-22.334	-3264.3
14	2497.0	-957.51	5.5273	0.069478	-22.334	-3264.1
15	-396.80	-1650.1	2.7981	0.069478	-9.0215	-7372.9
16	217.64	-1649.9	2.7454	0.069478	-8.8365	-7373.0
17	833.68	-1649.7	2.6927	0.069478	-8.6516	-7373.0
18	1449.7	-1649.5	2.6400	0.069478	-8.4666	-7373.1
19	2065.7	-1649.3	2.5874	0.069478	-8.2816	-7373.2
20	-367.54	-1650.5	2.7977	0.069478	-9.0207	-7375.4
21	247.02	-1650.3	2.7450	0.069478	-8.8358	-7375.4
22	863.06	-1650.1	2.6923	0.069478	-8.6508	-7375.5
23	1479.1	-1649.9	2.6397	0.069478	-8.4659	-7375.6
24	2095.1	-1649.7	2.5870	0.069478	-8.2809	-7375.6
25	-517.89	-2205.4	1.6292	0.045751	-3.8735	-8480.3

<b>APPALTATORE:</b> Consorzio <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>	CODIFICA <b>RG</b>	DOCUMENTO <b>MD0000 001</b>	REV. <b>B</b>	FOGLIO <b>210 di 260</b>

26	306.69	-2205.2	1.5466	0.045751	-3.6195	-8480.3
27	1135.7	-2204.9	1.4640	0.045751	-3.3655	-8480.2
28	1964.8	-2204.6	1.3815	0.045751	-3.1116	-8480.2
29	2793.9	-2204.3	1.2990	0.045751	-2.8576	-8480.1
30	-506.02	-2205.7	1.6292	0.045751	-3.8734	-8481.7
31	318.66	-2205.4	1.5465	0.045751	-3.6194	-8481.6
32	1147.7	-2205.2	1.4640	0.045751	-3.3654	-8481.5
33	1976.8	-2204.9	1.3814	0.045751	-3.1114	-8481.5
34	2805.8	-2204.6	1.2989	0.045751	-2.8575	-8481.4
MINIMUM	-823.92	-2205.7	1.2989	0.045751	-25.291	-8481.7
Pile N.	7	30	34	25	6	30
MAXIMUM	2805.8	-957.51	6.1699	0.069478	-2.8575	-3264.1
Pile N.	34	14	7	1	34	7

PILE GROUP STRESS, KN/ M\*\*2  
 \*\*\*\*\*

1	9128.6
2	9129.6
3	9130.7
4	9131.7
5	9132.8
6	9133.8
7	9134.9
8	9704.3
9	9702.3
10	9700.4
11	9698.4
12	9696.5
13	9694.6
14	9692.6
15	4743.4
16	4683.7
17	4889.1
18	5094.5
19	5299.9
20	4735.2
21	4695.1
22	4900.4
23	5105.8
24	5311.2
25	5476.3
26	5405.9
27	5682.2
28	5958.5
29	6234.8
30	5473.2
31	5410.7
32	5687.0
33	5963.3
34	6239.6

MINIMUM	4683.7
Pile N.	16
MAXIMUM	9704.3
Pile N.	8

\* EFFECTS FOR LATERALLY LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2	FLEX. RIG. z-DIR KN- M**2	FLEX. RIG. y-DIR KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	-4.1237E-03	-2.7681E-07	-1182.9	-25.289	-959.15	-1.9251	-215.23	-0.4649	265.70	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.5000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
2	-4.1234E-03	-2.7681E-07	-1182.9	-25.289	-959.11	-1.9251	-215.23	-0.4649	267.22	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.5000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
3	-4.1232E-03	-2.7682E-07	-1182.8	-25.290	-959.08	-1.9252	-215.22	-0.4649	268.69	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.5000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
4	-4.1230E-03	-2.7682E-07	-1182.8	-25.290	-959.04	-1.9252	-215.21	-0.4648	270.17	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.5000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
5	-4.1228E-03	-2.7682E-07	-1182.7	-25.290	-959.00	-1.9252	-215.21	-0.4648	271.65	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.5000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
6	-4.1225E-03	-2.7682E-07	-1182.7	-25.291	-958.96	-1.9253	-215.20	-0.4648	273.12	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.5000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
7	-4.1223E-03	-2.7682E-07	-1182.6	-25.291	-958.92	-1.9253	-215.19	-0.4648	274.64	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.5000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
8	-4.1237E-03	-2.5370E-07	-1183.9	-22.333	-957.92	-1.7520	-215.19	-0.4222	841.32	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.5000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
9	-4.1234E-03	-2.5370E-07	-1183.9	-22.333	-957.88	-1.7520	-215.19	-0.4222	839.80	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.5000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
10	-4.1232E-03	-2.5370E-07	-1183.8	-22.333	-957.84	-1.7521	-215.18	-0.4222	838.32	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.5000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
11	-4.1230E-03	-2.5370E-07	-1183.8	-22.334	-957.81	-1.7521	-215.17	-0.4222	836.83	1.1340E+07	4.9219E+07
x( M)	0.0000	15.000	7.5000	0.0000	0.0000	12.500	5.0000	17.000	50.000	0.0000	0.0000
12	-4.1228E-03	-2.5371E-07	-1183.7	-22.334	-957.77	-1.7521	-215.17	-0.4222	835.35	1.1340E+07	4.9219E+07



APPALTATORE: Consorzio <b>HirpiniaAV</b> Soci <b>salini impregio</b> <b>ASTALDI</b>		<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
PROGETTAZIONE: Mandataria <b>ROKSOJL</b> Mandanti <b>NETENGINEERING</b> <b>Alpina</b>						
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B						
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	
IF1N	01 E ZZ	RG	MD0000 001	B	212 di 260	

x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
18	7.2313E-05	1.3602E-05	7373.1	3.2927	384.35	2.6403	162.16	0.6024	5094.5	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
19	7.2345E-05	1.3375E-05	7373.2	3.2368	384.43	2.5878	162.18	0.5911	5299.9	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
20	7.2230E-05	1.4282E-05	7375.4	3.4600	384.21	2.7976	162.18	0.6361	4735.2	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
21	7.2262E-05	1.4055E-05	7375.4	3.4042	384.29	2.7450	162.20	0.6248	4695.1	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
22	7.2295E-05	1.3828E-05	7375.5	3.3483	384.37	2.6925	162.22	0.6136	4900.4	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
23	7.2327E-05	1.3602E-05	7375.6	3.2925	384.45	2.6399	162.25	0.6023	5105.8	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
24	7.2359E-05	1.3375E-05	7375.6	3.2366	384.53	2.5874	162.27	0.5910	5311.2	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
25	4.7567E-05	6.2756E-06	8480.3	2.3797	1136.8	1.6292	311.60	0.9780	5476.3	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
26	4.7572E-05	6.0489E-06	8480.3	2.2755	1137.0	1.5466	311.63	0.9276	5405.9	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
27	4.7578E-05	5.8223E-06	8480.2	2.1712	1137.1	1.4641	311.65	0.8771	5682.2	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
28	4.7583E-05	5.5957E-06	8480.2	2.0670	1137.2	1.3816	311.68	0.8267	5958.5	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
29	4.7588E-05	5.3690E-06	8480.1	1.9627	1137.3	1.2991	311.71	0.7763	6234.8	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
30	4.7573E-05	6.2756E-06	8481.7	2.3797	1137.0	1.6291	311.64	0.9780	5473.2	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
31	4.7578E-05	6.0489E-06	8481.6	2.2755	1137.1	1.5466	311.67	0.9275	5410.7	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
32	4.7584E-05	5.8223E-06	8481.5	2.1712	1137.2	1.4640	311.70	0.8771	5687.0	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
33	4.7589E-05	5.5957E-06	8481.5	2.0669	1137.3	1.3815	311.73	0.8267	5963.3	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
34	4.7594E-05	5.3690E-06	8481.4	1.9627	1137.4	1.2991	311.75	0.7763	6239.6	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
Max.	8.4955E-05	1.4440E-05	8481.7	11.832	1137.4	6.1697	311.75	1.6390	9704.3	4.9219E+07	4.9219E+07
Pile N.	8	1	30	7	34	7	34	1	8	15	1

LOAD CASE : 18  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
50302.3	-39793.1	123.441
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
49.6318	1492.26	-3.25770E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
4.57420E-04	-2.51690E-03	1.25216E-05
ANGLE ROT. X,RAD	ANGLE ROT. Y,RAD	ANGLE ROT. Z,RAD
5.29840E-08	5.64495E-07	2.59583E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
1	2.7634E-04	-2.5173E-03	1.2900E-05	5.2984E-08	5.6450E-07	2.5958E-05
2	2.7481E-04	-2.5172E-03	1.2900E-05	5.2984E-08	5.6450E-07	2.5958E-05
3	2.7331E-04	-2.5170E-03	1.2900E-05	5.2984E-08	5.6450E-07	2.5958E-05
4	2.7182E-04	-2.5169E-03	1.2900E-05	5.2984E-08	5.6450E-07	2.5958E-05
5	2.7032E-04	-2.5168E-03	1.2900E-05	5.2984E-08	5.6450E-07	2.5958E-05
6	2.6883E-04	-2.5166E-03	1.2900E-05	5.2984E-08	5.6450E-07	2.5958E-05
7	2.6729E-04	-2.5165E-03	1.2900E-05	5.2984E-08	5.6450E-07	2.5958E-05
8	6.4755E-04	-2.5173E-03	1.2143E-05	5.2984E-08	5.6450E-07	2.5958E-05
9	6.4601E-04	-2.5172E-03	1.2143E-05	5.2984E-08	5.6450E-07	2.5958E-05
10	6.4452E-04	-2.5170E-03	1.2143E-05	5.2984E-08	5.6450E-07	2.5958E-05
11	6.4302E-04	-2.5169E-03	1.2143E-05	5.2984E-08	5.6450E-07	2.5958E-05

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTAZIONE:

Mandataria

Mandanti



PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 213 di 260
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12	6.4153E-04	-2.5168E-03	1.2143E-05	5.2984E-08	5.6450E-07	2.5958E-05
13	6.4003E-04	-2.5166E-03	1.2143E-05	5.2984E-08	5.6450E-07	2.5958E-05
14	6.3849E-04	-2.5165E-03	1.2143E-05	5.2984E-08	5.6450E-07	2.5958E-05
15	3.1490E-04	-2.5164E-03	1.2802E-05	5.2984E-08	5.6450E-07	2.5958E-05
16	3.8369E-04	-2.5164E-03	1.2662E-05	5.2984E-08	5.6450E-07	2.5958E-05
17	4.5248E-04	-2.5164E-03	1.2522E-05	5.2984E-08	5.6450E-07	2.5958E-05
18	5.2127E-04	-2.5164E-03	1.2381E-05	5.2984E-08	5.6450E-07	2.5958E-05
19	5.9006E-04	-2.5164E-03	1.2241E-05	5.2984E-08	5.6450E-07	2.5958E-05
20	3.2478E-04	-2.5174E-03	1.2802E-05	5.2984E-08	5.6450E-07	2.5958E-05
21	3.9357E-04	-2.5174E-03	1.2662E-05	5.2984E-08	5.6450E-07	2.5958E-05
22	4.6236E-04	-2.5174E-03	1.2522E-05	5.2984E-08	5.6450E-07	2.5958E-05
23	5.3115E-04	-2.5174E-03	1.2381E-05	5.2984E-08	5.6450E-07	2.5958E-05
24	5.9994E-04	-2.5174E-03	1.2241E-05	5.2984E-08	5.6450E-07	2.5958E-05
25	3.1834E-04	-2.1533E-03	4.8995E-06	5.2984E-08	5.6450E-07	2.5958E-05
26	3.8713E-04	-2.1533E-03	4.7590E-06	5.2984E-08	5.6450E-07	2.5958E-05
27	4.5592E-04	-2.1533E-03	4.6186E-06	5.2984E-08	5.6450E-07	2.5958E-05
28	5.2471E-04	-2.1533E-03	4.4782E-06	5.2984E-08	5.6450E-07	2.5958E-05
29	5.9350E-04	-2.1533E-03	4.3378E-06	5.2984E-08	5.6450E-07	2.5958E-05
30	3.2134E-04	-2.1536E-03	4.8995E-06	5.2984E-08	5.6450E-07	2.5958E-05
31	3.9013E-04	-2.1536E-03	4.7590E-06	5.2984E-08	5.6450E-07	2.5958E-05
32	4.5892E-04	-2.1536E-03	4.6186E-06	5.2984E-08	5.6450E-07	2.5958E-05
33	5.2771E-04	-2.1536E-03	4.4782E-06	5.2984E-08	5.6450E-07	2.5958E-05
34	5.9649E-04	-2.1536E-03	4.3378E-06	5.2984E-08	5.6450E-07	2.5958E-05
MINIMUM	2.6729E-04	-2.5174E-03	4.3378E-06	5.2984E-08	5.6450E-07	2.5958E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.4755E-04	-2.1533E-03	1.2900E-05	5.2984E-08	5.6450E-07	2.5958E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	811.30	-695.91	6.2367	0.043044	-24.185	-2308.6
2	806.79	-695.89	6.2368	0.043044	-24.185	-2308.5
3	802.40	-695.86	6.2369	0.043044	-24.185	-2308.4
4	798.01	-695.83	6.2370	0.043044	-24.186	-2308.3
5	793.61	-695.81	6.2372	0.043044	-24.186	-2308.2
6	789.22	-695.78	6.2373	0.043044	-24.186	-2308.1
7	784.71	-695.75	6.2374	0.043044	-24.187	-2308.0
8	1901.1	-695.61	5.7816	0.043044	-22.178	-2308.6
9	1896.6	-695.58	5.7817	0.043044	-22.179	-2308.5
10	1892.2	-695.55	5.7819	0.043044	-22.179	-2308.4
11	1887.8	-695.53	5.7820	0.043044	-22.179	-2308.3
12	1883.4	-695.50	5.7821	0.043044	-22.179	-2308.2
13	1879.0	-695.47	5.7822	0.043044	-22.180	-2308.1
14	1874.5	-695.44	5.7823	0.043044	-22.180	-2307.9
15	924.49	-1218.0	2.8587	0.043044	-8.7396	-5354.6
16	1126.4	-1218.0	2.8215	0.043044	-8.6138	-5354.6
17	1328.4	-1217.9	2.7844	0.043044	-8.4879	-5354.6
18	1530.4	-1217.9	2.7472	0.043044	-8.3621	-5354.6
19	1732.3	-1217.9	2.7100	0.043044	-8.2363	-5354.6
20	953.49	-1218.3	2.8583	0.043044	-8.7388	-5356.3
21	1155.4	-1218.3	2.8212	0.043044	-8.6130	-5356.3
22	1357.4	-1218.3	2.7840	0.043044	-8.4872	-5356.3
23	1559.4	-1218.2	2.7468	0.043044	-8.3614	-5356.3
24	1761.3	-1218.2	2.7097	0.043044	-8.2356	-5356.3
25	1257.8	-1787.3	1.2570	0.028344	-2.5682	-6933.2
26	1529.6	-1787.2	1.2018	0.028344	-2.4033	-6933.2
27	1801.4	-1787.2	1.1466	0.028344	-2.2385	-6933.2
28	2073.1	-1787.1	1.0915	0.028344	-2.0736	-6933.1
29	2344.9	-1787.0	1.0363	0.028344	-1.9088	-6933.1
30	1269.6	-1787.5	1.2569	0.028344	-2.5681	-6934.1
31	1541.4	-1787.4	1.2017	0.028344	-2.4032	-6934.0
32	1813.2	-1787.3	1.1466	0.028344	-2.2384	-6934.0
33	2085.0	-1787.3	1.0914	0.028344	-2.0735	-6934.0
34	2356.8	-1787.2	1.0362	0.028344	-1.9087	-6934.0
MINIMUM	784.71	-1787.5	1.0362	0.028344	-24.187	-6934.1
Pile N.	7	30	34	25	7	30
MAXIMUM	2356.8	-695.44	6.2374	0.043044	-1.9087	-2307.9
Pile N.	34	14	7	1	34	14

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x, RAD	ROT. y, RAD	ROT. z, RAD
*****	*****	*****	*****	*****	*****	*****
1	2.7634E-04	-2.5173E-03	1.2900E-05	5.2984E-08	5.6450E-07	2.5958E-05
2	2.7481E-04	-2.5172E-03	1.2900E-05	5.2984E-08	5.6450E-07	2.5958E-05
3	2.7331E-04	-2.5170E-03	1.2900E-05	5.2984E-08	5.6450E-07	2.5958E-05
4	2.7182E-04	-2.5169E-03	1.2900E-05	5.2984E-08	5.6450E-07	2.5958E-05
5	2.7032E-04	-2.5168E-03	1.2900E-05	5.2984E-08	5.6450E-07	2.5958E-05
6	2.6883E-04	-2.5166E-03	1.2900E-05	5.2984E-08	5.6450E-07	2.5958E-05
7	2.6729E-04	-2.5165E-03	1.2900E-05	5.2984E-08	5.6450E-07	2.5958E-05

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandatario

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF1N 01 E ZZ RG MD0000 001 B 214 di 260

8	6.4755E-04	-2.5173E-03	1.2143E-05	5.2984E-08	5.6450E-07	2.5958E-05
9	6.4601E-04	-2.5172E-03	1.2143E-05	5.2984E-08	5.6450E-07	2.5958E-05
10	6.4452E-04	-2.5170E-03	1.2143E-05	5.2984E-08	5.6450E-07	2.5958E-05
11	6.4302E-04	-2.5169E-03	1.2143E-05	5.2984E-08	5.6450E-07	2.5958E-05
12	6.4153E-04	-2.5168E-03	1.2143E-05	5.2984E-08	5.6450E-07	2.5958E-05
13	6.4003E-04	-2.5166E-03	1.2143E-05	5.2984E-08	5.6450E-07	2.5958E-05
14	6.3849E-04	-2.5165E-03	1.2143E-05	5.2984E-08	5.6450E-07	2.5958E-05
15	3.1490E-04	-2.5164E-03	1.2802E-05	5.2984E-08	5.6450E-07	2.5958E-05
16	3.8369E-04	-2.5164E-03	1.2662E-05	5.2984E-08	5.6450E-07	2.5958E-05
17	4.5248E-04	-2.5164E-03	1.2522E-05	5.2984E-08	5.6450E-07	2.5958E-05
18	5.2127E-04	-2.5164E-03	1.2381E-05	5.2984E-08	5.6450E-07	2.5958E-05
19	5.9006E-04	-2.5164E-03	1.2241E-05	5.2984E-08	5.6450E-07	2.5958E-05
20	3.2478E-04	-2.5174E-03	1.2802E-05	5.2984E-08	5.6450E-07	2.5958E-05
21	3.9357E-04	-2.5174E-03	1.2662E-05	5.2984E-08	5.6450E-07	2.5958E-05
22	4.6236E-04	-2.5174E-03	1.2522E-05	5.2984E-08	5.6450E-07	2.5958E-05
23	5.3115E-04	-2.5174E-03	1.2381E-05	5.2984E-08	5.6450E-07	2.5958E-05
24	5.9994E-04	-2.5174E-03	1.2241E-05	5.2984E-08	5.6450E-07	2.5958E-05
25	3.1834E-04	-2.1533E-03	4.8995E-06	5.2984E-08	5.6450E-07	2.5958E-05
26	3.8713E-04	-2.1533E-03	4.7590E-06	5.2984E-08	5.6450E-07	2.5958E-05
27	4.5592E-04	-2.1533E-03	4.6186E-06	5.2984E-08	5.6450E-07	2.5958E-05
28	5.2471E-04	-2.1533E-03	4.4782E-06	5.2984E-08	5.6450E-07	2.5958E-05
29	5.9350E-04	-2.1533E-03	4.3378E-06	5.2984E-08	5.6450E-07	2.5958E-05
30	3.2134E-04	-2.1536E-03	4.8995E-06	5.2984E-08	5.6450E-07	2.5958E-05
31	3.9013E-04	-2.1536E-03	4.7590E-06	5.2984E-08	5.6450E-07	2.5958E-05
32	4.5892E-04	-2.1536E-03	4.6186E-06	5.2984E-08	5.6450E-07	2.5958E-05
33	5.2771E-04	-2.1536E-03	4.4782E-06	5.2984E-08	5.6450E-07	2.5958E-05
34	5.9649E-04	-2.1536E-03	4.3378E-06	5.2984E-08	5.6450E-07	2.5958E-05
MINIMUM	2.6729E-04	-2.5174E-03	4.3378E-06	5.2984E-08	5.6450E-07	2.5958E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.4755E-04	-2.1533E-03	1.2900E-05	5.2984E-08	5.6450E-07	2.5958E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
1	811.30	-695.91	6.2367	0.043044	-24.185	-2308.6
2	806.79	-695.89	6.2368	0.043044	-24.185	-2308.5
3	802.40	-695.86	6.2369	0.043044	-24.185	-2308.4
4	798.01	-695.83	6.2370	0.043044	-24.186	-2308.3
5	793.61	-695.81	6.2372	0.043044	-24.186	-2308.2
6	789.22	-695.78	6.2373	0.043044	-24.186	-2308.1
7	784.71	-695.75	6.2374	0.043044	-24.187	-2308.0
8	1901.1	-695.61	5.7816	0.043044	-22.178	-2308.6
9	1896.6	-695.58	5.7817	0.043044	-22.179	-2308.5
10	1892.2	-695.55	5.7819	0.043044	-22.179	-2308.4
11	1887.8	-695.53	5.7820	0.043044	-22.179	-2308.3
12	1883.4	-695.50	5.7821	0.043044	-22.179	-2308.2
13	1879.0	-695.47	5.7822	0.043044	-22.180	-2308.1
14	1874.5	-695.44	5.7823	0.043044	-22.180	-2307.9
15	924.49	-1218.0	2.8587	0.043044	-8.7396	-5354.6
16	1126.4	-1218.0	2.8215	0.043044	-8.6138	-5354.6
17	1328.4	-1217.9	2.7844	0.043044	-8.4879	-5354.6
18	1530.4	-1217.9	2.7472	0.043044	-8.3621	-5354.6
19	1732.3	-1217.9	2.7100	0.043044	-8.2363	-5354.6
20	953.49	-1218.3	2.8583	0.043044	-8.7388	-5356.3
21	1155.4	-1218.3	2.8212	0.043044	-8.6130	-5356.3
22	1357.4	-1218.3	2.7840	0.043044	-8.4872	-5356.3
23	1559.4	-1218.2	2.7468	0.043044	-8.3614	-5356.3
24	1761.3	-1218.2	2.7097	0.043044	-8.2356	-5356.3
25	1257.8	-1787.3	1.2570	0.028344	-2.5682	-6933.2
26	1529.6	-1787.2	1.2018	0.028344	-2.4033	-6933.2
27	1801.4	-1787.2	1.1466	0.028344	-2.2385	-6933.2
28	2073.1	-1787.1	1.0915	0.028344	-2.0736	-6933.1
29	2344.9	-1787.0	1.0363	0.028344	-1.9088	-6933.1
30	1269.6	-1787.5	1.2569	0.028344	-2.5681	-6934.0
31	1541.4	-1787.4	1.2017	0.028344	-2.4032	-6934.0
32	1813.2	-1787.3	1.1466	0.028344	-2.2384	-6934.0
33	2085.0	-1787.3	1.0914	0.028344	-2.0735	-6934.0
34	2356.8	-1787.2	1.0362	0.028344	-1.9087	-6934.0
MINIMUM	784.71	-1787.5	1.0362	0.028344	-24.187	-6934.1
Pile N.	7	30	34	25	7	30
MAXIMUM	2356.8	-695.44	6.2374	0.043044	-1.9087	-2307.9
Pile N.	34	14	7	1	34	14

PILE GROUP	STRESS, KN/ M**2
1	6537.1
2	6535.3
3	6533.5
4	6531.8
5	6530.0
6	6528.2
7	6526.4
8	6900.3
9	6898.5

APPALTATORE: Consorzio  Soci  	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>						
PROGETTAZIONE: Mandataria  Mandanti  							
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B	<table border="1"> <tr> <td>COMMESSA IF1N</td> <td>LOTTO 01 E ZZ</td> <td>CODIFICA RG</td> <td>DOCUMENTO MD0000 001</td> <td>REV. B</td> <td>FOGLIO 215 di 260</td> </tr> </table>	COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 215 di 260
COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 215 di 260		

10	6896.7
11	6895.0
12	6893.2
13	6891.4
14	6889.6
15	3657.1
16	3724.4
17	3791.7
18	3859.0
19	3926.3
20	3667.8
21	3735.1
22	3802.4
23	3869.7
24	3937.1
25	4755.4
26	4845.9
27	4936.5
28	5027.1
29	5117.7
30	4759.8
31	4850.4
32	4941.0
33	5031.6
34	5122.1

MINIMUM	3657.1
Pile N.	15
MAXIMUM	6900.3
Pile N.	8

\* EFFECTS FOR LATERALLY LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2	FLEX. RIG. z-DIR KN- M**2	FLEX. RIG. y-DIR KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	-2.5173E-03	-2.5537E-07	-804.92	-24.185	-695.96	-1.9551	-163.59	-0.4490	270.43	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.0000	0.0000	0.0000	12.000	5.0000	16.000	50.000	0.0000	0.0000
2	-2.5172E-03	-2.5537E-07	-804.88	-24.185	-695.93	-1.9552	-163.58	-0.4490	268.93	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.0000	0.0000	0.0000	12.000	5.0000	16.000	50.000	0.0000	0.0000
3	-2.5170E-03	-2.5537E-07	-804.85	-24.185	-695.90	-1.9552	-163.58	-0.4490	267.47	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.0000	0.0000	0.0000	12.000	5.0000	16.000	50.000	0.0000	0.0000
4	-2.5169E-03	-2.5537E-07	-804.81	-24.186	-695.87	-1.9552	-163.57	-0.4490	266.00	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.0000	0.0000	0.0000	12.000	5.0000	16.000	50.000	0.0000	0.0000
5	-2.5168E-03	-2.5537E-07	-804.78	-24.186	-695.85	-1.9552	-163.57	-0.4490	264.54	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.0000	0.0000	0.0000	12.000	5.0000	16.000	50.000	0.0000	0.0000
6	-2.5166E-03	-2.5537E-07	-804.74	-24.186	-695.82	-1.9553	-163.56	-0.4490	263.07	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.0000	0.0000	0.0000	12.000	5.0000	16.000	50.000	0.0000	0.0000
7	-2.5165E-03	-2.5537E-07	-804.71	-24.187	-695.79	-1.9553	-163.56	-0.4490	261.57	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.0000	0.0000	0.0000	12.000	5.0000	16.000	50.000	0.0000	0.0000
8	-2.5173E-03	-2.4006E-07	-805.13	-22.178	-695.70	-1.8316	-163.58	-0.4202	633.69	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.0000	0.0000	0.0000	12.000	5.0000	16.000	50.000	0.0000	0.0000
9	-2.5172E-03	-2.4006E-07	-805.09	-22.179	-695.68	-1.8316	-163.58	-0.4202	632.19	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.0000	0.0000	0.0000	12.000	5.0000	16.000	50.000	0.0000	0.0000
10	-2.5170E-03	-2.4006E-07	-805.06	-22.179	-695.65	-1.8316	-163.57	-0.4202	630.73	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.0000	0.0000	0.0000	12.000	5.0000	16.000	50.000	0.0000	0.0000
11	-2.5169E-03	-2.4006E-07	-805.02	-22.179	-695.62	-1.8317	-163.56	-0.4202	629.26	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.0000	0.0000	0.0000	12.000	5.0000	16.000	50.000	0.0000	0.0000
12	-2.5168E-03	-2.4006E-07	-804.99	-22.179	-695.59	-1.8317	-163.56	-0.4202	627.80	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.0000	0.0000	0.0000	12.000	5.0000	16.000	50.000	0.0000	0.0000
13	-2.5166E-03	-2.4006E-07	-804.95	-22.180	-695.57	-1.8317	-163.55	-0.4201	626.34	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.0000	0.0000	0.0000	12.000	5.0000	16.000	50.000	0.0000	0.0000
14	-2.5165E-03	-2.4006E-07	-804.92	-22.180	-695.54	-1.8317	-163.55	-0.4201	624.83	1.1340E+07	4.9219E+07
x(M)	0.0000	14.500	7.0000	0.0000	0.0000	12.000	5.0000	16.000	50.000	0.0000	0.0000
15	-2.5164E-03	-1.6485E-07	-1753.5	-8.7396	-1218.1	-0.6530	-204.25	-0.2802	308.16	4.9219E+07	1.1340E+07
x(M)	0.0000	12.500	10.000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
16	-2.5164E-03	-1.6313E-07	-1753.6	-8.6138	-1218.0	-0.6457	-204.25	-0.2772	375.48	4.9219E+07	1.1340E+07
x(M)	0.0000	12.500	10.000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
17	-2.5164E-03	-1.6141E-07	-1753.6	-8.4879	-1218.0	-0.6383	-204.25	-0.2742	442.80	4.9219E+07	1.1340E+07
x(M)	0.0000	12.500	10.000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
18	-2.5164E-03	-1.5969E-07	-1753.6	-8.3621	-1217.9	-0.6310	-204.25	-0.2712	510.12	4.9219E+07	1.1340E+07
x(M)	0.0000	12.500	10.000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
19	-2.5164E-03	-1.5797E-07	-1753.7	-8.2363	-1217.9	-0.6236	-204.24	-0.2682	577.43	4.9219E+07	1.1340E+07
x(M)	0.0000	12.500	10.000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
20	-2.5174E-03	-1.6487E-07	-1754.1	-8.7388	-1218.4	-0.6529	-204.29	-0.2799	317.83	4.9219E+07	1.1340E+07
x(M)	0.0000	12.500	10.000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
21	-2.5174E-03	-1.6315E-07	-1754.1	-8.6130	-1218.3	-0.6456	-204.29	-0.2769	385.15	4.9219E+07	1.1340E+07
x(M)	0.0000	12.500	10.000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
22	-2.5174E-03	-1.6143E-07	-1754.1	-8.4872	-1218.3	-0.6382	-204.29	-0.2739	452.47	4.9219E+07	1.1340E+07
x(M)	0.0000	12.500	10.000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
23	-2.5174E-03	-1.5970E-07	-1754.2	-8.3614	-1218.3	-0.6309	-204.29	-0.2709	519.78	4.9219E+07	1.1340E+07
x(M)	0.0000	12.500	10.000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
24	-2.5174E-03	-1.5798E-07	-1754.2	-8.2356	-1218.2	-0.6235	-204.29	-0.2679	587.10	4.9219E+07	1.1340E+07
x(M)	0.0000	12.500	10.000	0.0000	0.0000	10.500	5.5000	13.000	50.000	0.0000	0.0000
25	-2.1533E-03	-4.3244E-08	-3347.6	-2.5682	-1787.3	-0.6235	-1082.8	-0.2354	419.26	4.9219E+07	1.1340E+07

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandatario

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

Table with 6 columns: COMMESSA (IF1N), LOTTO (01 E ZZ), CODIFICA (RG), DOCUMENTO (MD0000 001), REV. (B), FOGLIO (216 di 260)

Main data table with 12 columns showing calculations for various pile nodes (x(M), 26, x(M), 27, x(M), 28, x(M), 29, x(M), 30, x(M), 31, x(M), 32, x(M), 33, x(M), 34, Min., Pile N.).

\* MAXIMUM VALUES AND LOCATIONS \*

Detailed data table with 13 columns: PILE, DISPL. y-DIR, DISPL. z-DIR, MOMENT y-DIR, MOMENT z-DIR, SHEAR y-DIR, SHEAR z-DIR, SOIL REACT y-DIR, SOIL REACT z-DIR, TOTAL STRESS, FLEX. RIG. z-DIR, FLEX. RIG. y-DIR.



<b>APPALTATORE:</b> Consorzio <span style="float: right;">Soci</span>   		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>
<b>PROGETTAZIONE:</b> Mandataria <span style="float: right;">Mandanti</span>   		
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		

x( M)	11.880	0.0000	0.0000	6.8400	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
31	3.6461E-05	4.7590E-06	6934.0	1.7122	864.71	1.2018	235.14	0.6775	4850.4	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	6.8400	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
32	3.6462E-05	4.6186E-06	6934.0	1.6495	864.73	1.1466	235.15	0.6447	4941.0	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	6.8400	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
33	3.6464E-05	4.4782E-06	6934.0	1.5874	864.75	1.0915	235.15	0.6118	5031.6	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	6.8400	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
34	3.6465E-05	4.3378E-06	6934.0	1.5283	864.78	1.0363	235.16	0.5790	5122.1	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	6.8400	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
Max.	5.0483E-05	1.2900E-05	6934.1	11.419	864.78	6.2375	235.16	1.4307	6900.3	4.9219E+07	4.9219E+07
Pile N.	8	1	30	3	34	7	34	1	8	15	1

LOAD CASE : 19  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
43795.5	-45761.0	21621.2
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
17912.4	88157.6	-3.00728E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
3.98038E-04	-3.45788E-03	2.21445E-03
ANGLE ROT. X, RAD	ANGLE ROT. Y, RAD	ANGLE ROT. Z, RAD
2.32347E-05	6.20430E-05	5.45343E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
1	5.0570E-04	-3.6442E-03	2.3806E-03	2.3235E-05	6.2043E-05	5.4534E-05
2	3.3695E-04	-3.5810E-03	2.3806E-03	2.3235E-05	6.2043E-05	5.4534E-05
3	1.7253E-04	-3.5194E-03	2.3806E-03	2.3235E-05	6.2043E-05	5.4534E-05
4	8.1183E-06	-3.4579E-03	2.3806E-03	2.3235E-05	6.2043E-05	5.4534E-05
5	-1.5630E-04	-3.3963E-03	2.3806E-03	2.3235E-05	6.2043E-05	5.4534E-05
6	-3.2071E-04	-3.3347E-03	2.3806E-03	2.3235E-05	6.2043E-05	5.4534E-05
7	-4.8947E-04	-3.2715E-03	2.3806E-03	2.3235E-05	6.2043E-05	5.4534E-05
8	1.2855E-03	-3.6442E-03	2.0483E-03	2.3235E-05	6.2043E-05	5.4534E-05
9	1.1168E-03	-3.5810E-03	2.0483E-03	2.3235E-05	6.2043E-05	5.4534E-05
10	9.5237E-04	-3.5194E-03	2.0483E-03	2.3235E-05	6.2043E-05	5.4534E-05
11	7.8796E-04	-3.4579E-03	2.0483E-03	2.3235E-05	6.2043E-05	5.4534E-05
12	6.2354E-04	-3.3963E-03	2.0483E-03	2.3235E-05	6.2043E-05	5.4534E-05
13	4.5913E-04	-3.3347E-03	2.0483E-03	2.3235E-05	6.2043E-05	5.4534E-05
14	2.9037E-04	-3.2715E-03	2.0483E-03	2.3235E-05	6.2043E-05	5.4534E-05
15	-4.3387E-04	-3.2546E-03	2.3376E-03	2.3235E-05	6.2043E-05	5.4534E-05
16	-2.8935E-04	-3.2546E-03	2.2760E-03	2.3235E-05	6.2043E-05	5.4534E-05
17	-1.4484E-04	-3.2546E-03	2.2145E-03	2.3235E-05	6.2043E-05	5.4534E-05
18	-3.2255E-07	-3.2546E-03	2.1529E-03	2.3235E-05	6.2043E-05	5.4534E-05
19	1.4419E-04	-3.2546E-03	2.0913E-03	2.3235E-05	6.2043E-05	5.4534E-05
20	6.5188E-04	-3.6612E-03	2.3376E-03	2.3235E-05	6.2043E-05	5.4534E-05
21	7.9640E-04	-3.6612E-03	2.2760E-03	2.3235E-05	6.2043E-05	5.4534E-05
22	9.4091E-04	-3.6612E-03	2.2145E-03	2.3235E-05	6.2043E-05	5.4534E-05
23	1.0854E-03	-3.6612E-03	2.1529E-03	2.3235E-05	6.2043E-05	5.4534E-05
24	1.2300E-03	-3.6612E-03	2.0913E-03	2.3235E-05	6.2043E-05	5.4534E-05
25	-5.5407E-05	-2.6328E-03	1.4690E-03	2.3235E-05	6.2043E-05	5.4534E-05
26	8.9108E-05	-2.6328E-03	1.4074E-03	2.3235E-05	6.2043E-05	5.4534E-05
27	2.3362E-04	-2.6328E-03	1.3458E-03	2.3235E-05	6.2043E-05	5.4534E-05
28	3.7814E-04	-2.6328E-03	1.2843E-03	2.3235E-05	6.2043E-05	5.4534E-05
29	5.2266E-04	-2.6328E-03	1.2227E-03	2.3235E-05	6.2043E-05	5.4534E-05
30	2.7342E-04	-2.7560E-03	1.4690E-03	2.3235E-05	6.2043E-05	5.4534E-05
31	4.1794E-04	-2.7560E-03	1.4074E-03	2.3235E-05	6.2043E-05	5.4534E-05
32	5.6245E-04	-2.7560E-03	1.3458E-03	2.3235E-05	6.2043E-05	5.4534E-05
33	7.0697E-04	-2.7560E-03	1.2843E-03	2.3235E-05	6.2043E-05	5.4534E-05
34	8.5148E-04	-2.7560E-03	1.2227E-03	2.3235E-05	6.2043E-05	5.4534E-05
MINIMUM	-4.8947E-04	-3.6612E-03	1.2227E-03	2.3235E-05	6.2043E-05	5.4534E-05
Pile N.	7	20	29	1	1	1

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTAZIONE:

Mandataria

Mandanti



PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 218 di 260
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MAXIMUM Pile N.	1.2855E-03 8	-2.6328E-03 25	2.3806E-03 1	2.3235E-05 1	6.2043E-05 1	5.4534E-05 1
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\* PILE TOP REACTIONS \*

PILE GROUP *****	FOR. X, KN *****	FOR. Y, KN *****	FOR. Z, KN *****	MOM X, KN- M *****	MOM Y, KN- M *****	MOM Z, KN- M *****
1	1484.6	-811.61	972.61	18.876	-4222.7	-2809.9
2	989.21	-799.52	975.58	18.876	-4230.8	-2762.4
3	506.52	-787.66	978.50	18.876	-4238.6	-2716.0
4	23.834	-775.72	981.42	18.876	-4246.6	-2669.4
5	-457.02	-763.69	984.36	18.876	-4254.5	-2622.6
6	-937.78	-751.58	987.31	18.876	-4262.4	-2575.6
7	-1431.2	-739.06	990.34	18.876	-4270.6	-2527.2
8	3774.1	-826.24	838.65	18.876	-3570.6	-2850.9
9	3278.7	-814.24	841.57	18.876	-3578.5	-2803.5
10	2796.0	-802.46	844.43	18.876	-3586.4	-2757.2
11	2313.3	-790.60	847.32	18.876	-3594.2	-2710.6
12	1830.6	-778.65	850.22	18.876	-3602.1	-2663.9
13	1347.9	-766.60	853.14	18.876	-3610.0	-2616.9
14	852.48	-754.13	856.14	18.876	-3618.2	-2568.5
15	-1268.7	-1365.9	497.03	18.876	-1659.6	-6105.0
16	-846.09	-1368.2	483.48	18.876	-1610.3	-6111.5
17	-423.52	-1370.4	469.85	18.876	-1560.9	-6117.9
18	-0.9432	-1372.6	456.16	18.876	-1511.3	-6124.3
19	423.32	-1374.8	442.41	18.876	-1461.6	-6130.6
20	1913.8	-1500.4	481.63	18.876	-1623.9	-6810.0
21	2338.1	-1502.5	468.32	18.876	-1575.2	-6816.0
22	2762.3	-1504.5	454.97	18.876	-1526.5	-6822.0
23	3186.6	-1506.5	441.55	18.876	-1477.6	-6827.9
24	3610.9	-1508.5	428.09	18.876	-1428.6	-6833.7
25	-217.04	-1996.7	465.52	12.430	-1313.4	-7770.4
26	352.07	-1999.0	443.90	12.430	-1245.4	-7774.9
27	923.05	-2001.2	422.17	12.430	-1177.1	-7779.2
28	1494.0	-2003.3	400.34	12.430	-1108.7	-7783.5
29	2065.0	-2005.3	378.42	12.430	-1040.1	-7787.5
30	1080.3	-2079.7	460.26	12.430	-1304.2	-8139.6
31	1651.3	-2081.9	438.80	12.430	-1236.4	-8143.9
32	2222.3	-2084.0	417.24	12.430	-1168.5	-8148.1
33	2793.2	-2086.0	395.58	12.430	-1100.4	-8152.1
34	3364.2	-2087.9	373.84	12.430	-1032.2	-8156.0
MINIMUM Pile N.	-1431.2 7	-2087.9 34	373.84 34	12.430 25	-4270.6 7	-8156.0 34
MAXIMUM Pile N.	3774.1 8	-739.06 7	990.34 7	18.876 1	-1032.2 34	-2527.2 7

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP *****	DISP. x, M *****	DISP. y, M *****	DISP. z, M *****	ROT. x,RAD *****	ROT. y,RAD *****	ROT. z,RAD *****
1	5.0570E-04	-3.6442E-03	2.3806E-03	2.3235E-05	6.2043E-05	5.4534E-05
2	3.3695E-04	-3.5810E-03	2.3806E-03	2.3235E-05	6.2043E-05	5.4534E-05
3	1.7253E-04	-3.5194E-03	2.3806E-03	2.3235E-05	6.2043E-05	5.4534E-05
4	8.1183E-06	-3.4579E-03	2.3806E-03	2.3235E-05	6.2043E-05	5.4534E-05
5	-1.5630E-04	-3.3963E-03	2.3806E-03	2.3235E-05	6.2043E-05	5.4534E-05
6	-3.2071E-04	-3.3347E-03	2.3806E-03	2.3235E-05	6.2043E-05	5.4534E-05
7	-4.8947E-04	-3.2715E-03	2.3806E-03	2.3235E-05	6.2043E-05	5.4534E-05
8	1.2855E-03	-3.6442E-03	2.0483E-03	2.3235E-05	6.2043E-05	5.4534E-05
9	1.1168E-03	-3.5810E-03	2.0483E-03	2.3235E-05	6.2043E-05	5.4534E-05
10	9.5237E-04	-3.5194E-03	2.0483E-03	2.3235E-05	6.2043E-05	5.4534E-05
11	7.8796E-04	-3.4579E-03	2.0483E-03	2.3235E-05	6.2043E-05	5.4534E-05
12	6.2354E-04	-3.3963E-03	2.0483E-03	2.3235E-05	6.2043E-05	5.4534E-05
13	4.5913E-04	-3.3347E-03	2.0483E-03	2.3235E-05	6.2043E-05	5.4534E-05
14	2.9037E-04	-3.2715E-03	2.0483E-03	2.3235E-05	6.2043E-05	5.4534E-05
15	-4.3387E-04	-3.2546E-03	2.3376E-03	2.3235E-05	6.2043E-05	5.4534E-05
16	-2.8935E-04	-3.2546E-03	2.2760E-03	2.3235E-05	6.2043E-05	5.4534E-05
17	-1.4484E-04	-3.2546E-03	2.2145E-03	2.3235E-05	6.2043E-05	5.4534E-05
18	-3.2255E-07	-3.2546E-03	2.1529E-03	2.3235E-05	6.2043E-05	5.4534E-05
19	1.4419E-04	-3.2546E-03	2.0913E-03	2.3235E-05	6.2043E-05	5.4534E-05
20	6.5188E-04	-3.6612E-03	2.3376E-03	2.3235E-05	6.2043E-05	5.4534E-05
21	7.9640E-04	-3.6612E-03	2.2760E-03	2.3235E-05	6.2043E-05	5.4534E-05
22	9.4091E-04	-3.6612E-03	2.2145E-03	2.3235E-05	6.2043E-05	5.4534E-05
23	1.0854E-03	-3.6612E-03	2.1529E-03	2.3235E-05	6.2043E-05	5.4534E-05
24	1.2300E-03	-3.6612E-03	2.0913E-03	2.3235E-05	6.2043E-05	5.4534E-05
25	-5.5407E-05	-2.6328E-03	1.4690E-03	2.3235E-05	6.2043E-05	5.4534E-05
26	8.9108E-05	-2.6328E-03	1.4074E-03	2.3235E-05	6.2043E-05	5.4534E-05
27	2.3362E-04	-2.6328E-03	1.3458E-03	2.3235E-05	6.2043E-05	5.4534E-05
28	3.7814E-04	-2.6328E-03	1.2843E-03	2.3235E-05	6.2043E-05	5.4534E-05
29	5.2266E-04	-2.6328E-03	1.2227E-03	2.3235E-05	6.2043E-05	5.4534E-05
30	2.7342E-04	-2.7560E-03	1.4690E-03	2.3235E-05	6.2043E-05	5.4534E-05
31	4.1794E-04	-2.7560E-03	1.4074E-03	2.3235E-05	6.2043E-05	5.4534E-05
32	5.6245E-04	-2.7560E-03	1.3458E-03	2.3235E-05	6.2043E-05	5.4534E-05
33	7.0697E-04	-2.7560E-03	1.2843E-03	2.3235E-05	6.2043E-05	5.4534E-05

<b>APPALTATORE:</b> Consorzio <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   	
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	

	34	8.5148E-04	-2.7560E-03	1.2227E-03	2.3235E-05	6.2043E-05	5.4534E-05
MINIMUM		-4.8947E-04	-3.6612E-03	1.2227E-03	2.3235E-05	6.2043E-05	5.4534E-05
Pile N.		7	20	29	1	1	1
MAXIMUM		1.2855E-03	-2.6328E-03	2.3806E-03	2.3235E-05	6.2043E-05	5.4534E-05
Pile N.		8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
1	1484.6	-811.61	972.61	18.876	-4222.7	-2809.9
2	989.21	-799.52	975.58	18.876	-4230.8	-2762.4
3	506.52	-787.66	978.50	18.876	-4238.6	-2716.0
4	23.834	-775.72	981.42	18.876	-4246.6	-2669.4
5	-457.02	-763.69	984.36	18.876	-4254.5	-2622.6
6	-937.78	-751.58	987.31	18.876	-4262.4	-2575.6
7	-1431.2	-739.06	990.34	18.876	-4270.6	-2527.2
8	3774.1	-826.24	838.65	18.876	-3570.6	-2850.9
9	3278.7	-814.24	841.57	18.876	-3578.5	-2803.5
10	2796.0	-802.46	844.43	18.876	-3586.4	-2757.2
11	2313.3	-790.60	847.32	18.876	-3594.2	-2710.6
12	1830.6	-778.65	850.22	18.876	-3602.1	-2663.9
13	1347.9	-766.60	853.14	18.876	-3610.0	-2616.9
14	852.48	-754.13	856.14	18.876	-3618.2	-2568.5
15	-1268.7	-1365.9	497.03	18.876	-1659.6	-6105.0
16	-846.09	-1368.2	483.48	18.876	-1610.3	-6111.5
17	-423.52	-1370.4	469.85	18.876	-1560.9	-6117.9
18	-0.9432	-1372.6	456.16	18.876	-1511.3	-6124.3
19	423.32	-1374.8	442.41	18.876	-1461.6	-6130.6
20	1913.8	-1500.4	481.63	18.876	-1623.9	-6810.0
21	2338.1	-1502.5	468.32	18.876	-1575.2	-6816.0
22	2762.3	-1504.5	454.97	18.876	-1526.5	-6822.0
23	3186.6	-1506.5	441.55	18.876	-1477.6	-6827.9
24	3610.9	-1508.5	428.09	18.876	-1428.6	-6833.7
25	-217.04	-1996.7	465.52	12.430	-1313.4	-7770.4
26	352.07	-1999.0	443.90	12.430	-1245.4	-7774.9
27	923.05	-2001.2	422.17	12.430	-1177.1	-7779.2
28	1494.0	-2003.3	400.34	12.430	-1108.7	-7783.5
29	2065.0	-2005.3	378.42	12.430	-1040.1	-7787.5
30	1080.3	-2079.7	460.26	12.430	-1304.2	-8139.6
31	1651.3	-2081.9	438.80	12.430	-1236.4	-8143.9
32	2222.3	-2084.0	417.24	12.430	-1168.5	-8148.1
33	2793.2	-2086.0	395.58	12.430	-1100.4	-8152.1
34	3364.2	-2087.9	373.84	12.430	-1032.2	-8156.0
MINIMUM	-1431.2	-2087.9	373.84	12.430	-4270.6	-8156.0
Pile N.	7	34	34	25	7	34
MAXIMUM	3774.1	-739.06	990.34	18.876	-1032.2	-2527.2
Pile N.	8	7	7	1	34	7

PILE GROUP STRESS, KN/ M\*\*2

PILE GROUP	STRESS, KN/ M**2
1	8566.5
2	8281.3
3	8003.3
4	7725.2
5	7752.2
6	7794.9
7	7838.5
8	9312.4
9	9025.2
10	8745.0
11	8464.6
12	8183.9
13	7902.9
14	7614.3
15	6328.1
16	6088.5
17	5850.0
18	5612.7
19	5658.3
20	6767.3
21	6817.2
22	6868.2
23	6920.7
24	6974.5
25	6099.6
26	6039.5
27	6128.3
28	6221.1
29	6317.9
30	6560.6
31	6650.0
32	6743.1
33	6840.0
34	6941.1

<b>APPALTATORE:</b> Consorzio <u>Soci</u> 	<b>ITINERARIO NAPOLI – BARI</b>					
<b>PROGETTAZIONE:</b> Mandataria <u>Mandanti</u> 	<b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	<b>COMMESSA</b> IF1N	<b>LOTTO</b> 01 E ZZ	<b>CODIFICA</b> RG	<b>DOCUMENTO</b> MD0000 001	<b>REV.</b> B	<b>FOGLIO</b> 220 di 260

MINIMUM 5612.7  
 Pile N. 18  
 MAXIMUM 9312.4  
 Pile N. 8

\* EFFECTS FOR LATERALLY LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2	FLEX. RIG. z-DIR KN- M**2	FLEX. RIG. y-DIR KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	-3.6442E-03	-4.1212E-05	-953.68	-4222.7	-811.70	-237.85	-180.88	-70.673	494.88	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	14.000	5.0000	21.500	50.000	0.0000	0.0000
2	-3.5810E-03	-4.1286E-05	-938.52	-4238.8	-799.58	-238.23	-178.40	-70.525	329.74	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	14.000	5.0000	21.500	50.000	0.0000	0.0000
3	-3.5195E-03	-4.1359E-05	-923.69	-4238.6	-787.69	-238.61	-175.97	-70.382	168.84	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	14.000	5.0000	21.500	50.000	0.0000	0.0000
4	-3.4579E-03	-4.1431E-05	-908.80	-4246.6	-775.72	-238.99	-173.50	-70.240	7.9446	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	14.000	5.0000	21.500	50.000	0.0000	0.0000
5	-3.3963E-03	-4.1503E-05	-893.85	-4254.5	-763.66	-239.36	-171.02	-70.099	152.34	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	14.000	5.0000	21.500	50.000	0.0000	0.0000
6	-3.3347E-03	-4.1576E-05	-878.83	-4262.4	-751.53	-239.73	-168.51	-69.960	312.59	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	14.000	5.0000	21.500	50.000	0.0000	0.0000
7	-3.2715E-03	-4.1651E-05	-863.36	-4270.6	-738.98	-240.12	-165.91	-69.818	477.08	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	14.000	5.0000	21.500	50.000	0.0000	0.0000
8	-3.6442E-03	-3.6176E-05	-974.47	-3570.6	-826.47	-211.74	-185.40	-54.307	1258.0	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	13.500	5.0000	21.500	50.000	0.0000	0.0000
9	-3.5810E-03	-3.6225E-05	-959.21	-3578.5	-814.44	-212.22	-182.96	-54.141	1092.9	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	13.500	5.0000	21.500	50.000	0.0000	0.0000
10	-3.5195E-03	-3.6272E-05	-944.27	-3586.4	-802.63	-212.68	-180.57	-53.980	931.99	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	13.500	5.0000	21.500	50.000	0.0000	0.0000
11	-3.4579E-03	-3.6319E-05	-929.27	-3594.2	-790.74	-213.14	-178.15	-53.820	771.10	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	13.500	5.0000	21.500	50.000	0.0000	0.0000
12	-3.3963E-03	-3.6367E-05	-914.19	-3602.1	-778.76	-213.60	-175.70	-53.661	610.20	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	13.500	5.0000	21.500	50.000	0.0000	0.0000
13	-3.3347E-03	-3.6414E-05	-899.04	-3610.0	-766.68	-214.06	-173.23	-53.503	449.31	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	13.500	5.0000	21.500	50.000	0.0000	0.0000
14	-3.2715E-03	-3.6463E-05	-883.43	-3618.2	-754.18	-214.53	-170.67	-53.342	284.16	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	13.500	5.0000	21.500	50.000	0.0000	0.0000
15	-3.2546E-03	-3.4874E-05	-2103.4	-1659.6	-1365.9	-107.58	-221.57	-30.362	422.89	4.9219E+07	1.1340E+07
x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.000	5.0000	14.000	50.000	0.0000	0.0000
16	-3.2546E-03	-3.3825E-05	-2104.8	-1610.3	-1368.2	-104.87	-222.14	-29.787	282.03	4.9219E+07	1.1340E+07
x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.000	5.0000	14.000	50.000	0.0000	0.0000
17	-3.2546E-03	-3.2780E-05	-2106.2	-1560.9	-1370.4	-102.15	-222.70	-29.197	141.17	4.9219E+07	1.1340E+07
x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.000	5.0000	14.000	50.000	0.0000	0.0000
18	-3.2546E-03	-3.1739E-05	-2107.6	-1511.3	-1372.6	-99.419	-223.25	-28.591	0.3144	4.9219E+07	1.1340E+07
x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.000	5.0000	14.000	50.000	0.0000	0.0000
19	-3.2546E-03	-3.0701E-05	-2108.9	-1461.6	-1374.8	-96.673	-223.79	-27.967	141.11	4.9219E+07	1.1340E+07
x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.000	5.0000	14.000	50.000	0.0000	0.0000
20	-3.6612E-03	-3.4647E-05	-2308.0	-1623.9	-1500.5	-103.60	-239.66	-30.868	637.93	4.9219E+07	1.1340E+07
x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.500	5.0000	14.000	50.000	0.0000	0.0000
21	-3.6612E-03	-3.3626E-05	-2309.5	-1575.2	-1502.6	-100.94	-240.16	-30.380	779.36	4.9219E+07	1.1340E+07
x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.500	5.0000	14.000	50.000	0.0000	0.0000
22	-3.6612E-03	-3.2607E-05	-2310.9	-1526.5	-1504.6	-98.262	-240.66	-29.882	920.78	4.9219E+07	1.1340E+07
x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.500	5.0000	14.000	50.000	0.0000	0.0000
23	-3.6612E-03	-3.1591E-05	-2312.2	-1477.6	-1506.6	-95.614	-241.15	-29.372	1062.2	4.9219E+07	1.1340E+07
x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.000	5.0000	14.000	50.000	0.0000	0.0000
24	-3.6612E-03	-3.0578E-05	-2313.6	-1428.6	-1508.6	-92.971	-241.63	-28.849	1203.6	4.9219E+07	1.1340E+07
x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.000	5.0000	14.000	50.000	0.0000	0.0000
25	-2.6328E-03	-1.4903E-05	-3948.4	-1313.4	-1996.7	-218.34	-1198.6	-82.888	72.346	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
26	-2.6328E-03	-1.4228E-05	-3948.8	-1245.4	-1999.0	-208.25	-1199.5	-79.048	117.36	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
27	-2.6328E-03	-1.3553E-05	-3949.2	-1177.1	-2001.2	-198.16	-1200.4	-75.209	307.68	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
28	-2.6328E-03	-1.2878E-05	-3949.6	-1108.7	-2003.3	-188.08	-1201.1	-71.372	498.01	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
29	-2.6328E-03	-1.2202E-05	-3949.9	-1040.1	-2005.4	-177.99	-1201.9	-67.535	688.34	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
30	-2.7560E-03	-1.4755E-05	-4118.3	-1304.2	-2079.8	-217.29	-1237.5	-82.548	360.10	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
31	-2.7560E-03	-1.4089E-05	-4118.8	-1236.4	-2081.9	-207.26	-1238.3	-78.730	550.42	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
32	-2.7560E-03	-1.3421E-05	-4119.2	-1168.5	-2084.0	-197.24	-1239.1	-74.912	740.75	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
33	-2.7560E-03	-1.2754E-05	-4119.6	-1100.4	-2086.1	-187.22	-1239.9	-71.096	931.08	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
34	-2.7560E-03	-1.2085E-05	-4119.9	-1032.2	-2088.0	-177.19	-1240.6	-67.280	1121.4	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
Min. Pile N.	-3.6612E-03 20	-4.1651E-05 7	-4119.9 34	-4270.6 7	-2088.0 34	-240.12 7	-1240.6 34	-82.888 25	0.3144 18	1.1340E+07 1	1.1340E+07 15

\* MAXIMUM VALUES AND LOCATIONS \*

PILE	DISPL.	DISPL.	MOMENT	MOMENT	SHEAR	SHEAR	SOIL REACT	SOIL REACT	TOTAL	FLEX. RIG.	FLEX. RIG.
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**APPALDATTORE:**  
**Consorzio** **Soci**  


**PROGETTAZIONE:**  
**Mandatario** **Mandanti**  


**PROGETTO ESECUTIVO**  
**RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B**

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA APICE – ORSARA**  
**I LOTTO FUNZIONALE APICE – HIRPINIA**

<b>COMMESSA</b> IF1N	<b>LOTTO</b> 01 E ZZ	<b>CODIFICA</b> RG	<b>DOCUMENTO</b> MD0000 001	<b>REV.</b> B	<b>FOGLIO</b> 221 di 260
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	y-DIR M	z-DIR M	z-DIR KN- M	y-DIR KN- M	y-DIR KN	z-DIR KN	y-DIR KN/ M	z-DIR KN/ M	STRESS KN/ M**2	z-DIR KN- M**2	y-DIR KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	6.0923E-05	2.3806E-03	2809.9	1598.1	180.11	972.64	41.930	159.55	8566.5	1.1340E+07	4.9219E+07
x(M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
2	5.9717E-05	2.3806E-03	2762.4	1599.5	177.28	975.60	41.483	160.32	8281.3	1.1340E+07	4.9219E+07
x(M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
3	5.8543E-05	2.3806E-03	2716.0	1600.9	174.50	978.51	41.044	161.07	8003.3	1.1340E+07	4.9219E+07
x(M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
4	5.7370E-05	2.3806E-03	2669.4	1602.3	171.71	981.42	40.601	161.82	7725.2	1.1340E+07	4.9219E+07
x(M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
5	5.6197E-05	2.3806E-03	2622.6	1603.7	168.91	984.35	40.153	162.58	7752.2	1.1340E+07	4.9219E+07
x(M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
6	5.5025E-05	2.3806E-03	2575.6	1605.3	166.10	987.29	39.701	163.34	7794.9	1.1340E+07	4.9219E+07
x(M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
7	5.3824E-05	2.3806E-03	2527.2	1607.1	163.20	990.31	39.231	164.13	7838.5	1.1340E+07	4.9219E+07
x(M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
8	6.2627E-05	2.0483E-03	2850.9	1408.6	186.89	838.72	42.300	139.34	9312.4	1.1340E+07	4.9219E+07
x(M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
9	6.1367E-05	2.0483E-03	2803.5	1410.6	183.98	841.63	41.825	140.11	9025.2	1.1340E+07	4.9219E+07
x(M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
10	6.0141E-05	2.0483E-03	2757.2	1412.4	181.13	844.49	41.357	140.86	8745.0	1.1340E+07	4.9219E+07
x(M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
11	5.8915E-05	2.0483E-03	2710.6	1414.3	178.27	847.36	40.884	141.62	8464.6	1.1340E+07	4.9219E+07
x(M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
12	5.7690E-05	2.0483E-03	2663.9	1416.1	175.39	850.26	40.406	142.39	8183.9	1.1340E+07	4.9219E+07
x(M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
13	5.6466E-05	2.0483E-03	2616.9	1417.9	172.50	853.16	39.952	143.16	7902.9	1.1340E+07	4.9219E+07
x(M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.000	5.5000	0.0000	0.0000	0.0000
14	5.5212E-05	2.0483E-03	2568.5	1419.8	169.52	856.16	39.521	143.96	7614.3	1.1340E+07	4.9219E+07
x(M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.000	5.5000	0.0000	0.0000	0.0000
15	5.4775E-05	2.3376E-03	6105.0	588.69	309.90	496.99	115.57	112.29	6328.1	4.9219E+07	1.1340E+07
x(M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
16	5.4921E-05	2.2760E-03	6111.5	573.48	310.29	483.45	115.56	109.43	6088.5	4.9219E+07	1.1340E+07
x(M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
17	5.5069E-05	2.2145E-03	6117.9	558.22	310.68	469.84	115.56	106.54	5850.0	4.9219E+07	1.1340E+07
x(M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
18	5.5219E-05	2.1529E-03	6124.3	542.91	311.07	456.16	115.56	103.64	5612.7	4.9219E+07	1.1340E+07
x(M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
19	5.5371E-05	2.0913E-03	6130.6	527.57	311.46	442.43	115.57	100.71	5658.3	4.9219E+07	1.1340E+07
x(M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
20	5.9414E-05	2.3376E-03	6810.0	574.74	338.88	481.70	137.34	107.79	6767.3	4.9219E+07	1.1340E+07
x(M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
21	5.9591E-05	2.2760E-03	6816.0	559.85	339.35	468.41	137.37	104.99	6817.2	4.9219E+07	1.1340E+07
x(M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
22	5.9770E-05	2.2145E-03	6822.0	544.93	339.81	455.06	137.41	102.17	6868.2	4.9219E+07	1.1340E+07
x(M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
23	5.9951E-05	2.1529E-03	6827.9	529.96	340.29	441.66	137.45	99.336	6920.7	4.9219E+07	1.1340E+07
x(M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
24	6.0135E-05	2.0913E-03	6833.7	514.95	340.76	428.20	137.50	96.483	6974.5	4.9219E+07	1.1340E+07
x(M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
25	4.2790E-05	1.4690E-03	7770.4	626.32	1019.9	465.52	278.77	287.79	6099.6	4.9219E+07	1.1340E+07
x(M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
26	4.2798E-05	1.4074E-03	7774.9	597.68	1020.0	443.90	278.78	273.73	6039.5	4.9219E+07	1.1340E+07
x(M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
27	4.2806E-05	1.3458E-03	7779.2	569.05	1020.1	422.19	278.79	259.67	6128.3	4.9219E+07	1.1340E+07
x(M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
28	4.2813E-05	1.2843E-03	7783.5	540.41	1020.2	400.37	278.80	245.61	6221.1	4.9219E+07	1.1340E+07
x(M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
29	4.2821E-05	1.2227E-03	7787.5	511.78	1020.3	378.45	278.82	231.55	6317.9	4.9219E+07	1.1340E+07
x(M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
30	4.4533E-05	1.4690E-03	8139.6	624.31	1063.4	460.29	291.19	284.85	6560.6	4.9219E+07	1.1340E+07
x(M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
31	4.4542E-05	1.4074E-03	8143.9	595.78	1063.5	438.83	291.20	270.93	6650.0	4.9219E+07	1.1340E+07
x(M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
32	4.4551E-05	1.3458E-03	8148.1	567.25	1063.6	417.28	291.22	257.02	6743.1	4.9219E+07	1.1340E+07
x(M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
33	4.4560E-05	1.2843E-03	8152.1	538.73	1063.8	395.63	291.24	243.12	6840.0	4.9219E+07	1.1340E+07
x(M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
34	4.4568E-05	1.2227E-03	8156.0	510.20	1063.9	373.90	291.26	229.22	6941.1	4.9219E+07	1.1340E+07
x(M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
Max.	6.2627E-05	2.3806E-03	8156.0	1607.1	1063.9	990.31	291.26	287.79	9312.4	4.9219E+07	4.9219E+07
Pile N.	8	1	34	7	34	7	34	25	8	15	1

LOAD CASE : 20  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTAZIONE:

Mandatario

Mandanti



PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA  
IF1N

LOTTO  
01 E ZZ

CODIFICA  
RG

DOCUMENTO  
MD0000 001

REV.  
B

FOGLIO  
222 di  
260

VERT. LOAD, KN 38265.0    HOR. LOAD Y, KN -45761.0    HOR. LOAD Z, KN -21374.3

MOMENT X, KN- M -17796.4    MOMENT Y, KN- M -85214.6    MOMENT Z, KN- M -2.95676E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M 3.47690E-04    HORIZONTAL Y, M -3.47014E-03    HORIZONTAL Z, M -2.18319E-03

ANGLE ROT. X, RAD -2.30564E-05    ANGLE ROT. Y, RAD -6.08687E-05    ANGLE ROT. Z, RAD 5.57975E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
1	-5.3943E-04	-3.2852E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
2	-3.7387E-04	-3.3479E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
3	-2.1256E-04	-3.4090E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
4	-5.1261E-05	-3.4701E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
5	1.1004E-04	-3.5312E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
6	2.7134E-04	-3.5923E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
7	4.3691E-04	-3.6550E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
8	2.5847E-04	-3.2852E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
9	4.2404E-04	-3.3479E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
10	5.8534E-04	-3.4090E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
11	7.4664E-04	-3.4701E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
12	9.0794E-04	-3.5312E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
13	1.0693E-03	-3.5923E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
14	1.2348E-03	-3.6550E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
15	5.8456E-04	-3.6719E-03	-2.3054E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
16	7.3243E-04	-3.6719E-03	-2.2443E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
17	8.8029E-04	-3.6719E-03	-2.1832E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
18	1.0282E-03	-3.6719E-03	-2.1221E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
19	1.1760E-03	-3.6719E-03	-2.0610E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
20	-4.8064E-04	-3.2684E-03	-2.3054E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
21	-3.3277E-04	-3.2684E-03	-2.2443E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
22	-1.8491E-04	-3.2684E-03	-2.1832E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
23	-3.7047E-05	-3.2684E-03	-2.1221E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
24	1.1082E-04	-3.2684E-03	-2.0610E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
25	2.1327E-04	-2.7501E-03	-1.4532E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
26	3.6113E-04	-2.7501E-03	-1.3921E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
27	5.0899E-04	-2.7501E-03	-1.3310E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
28	6.5686E-04	-2.7501E-03	-1.2699E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
29	8.0472E-04	-2.7501E-03	-1.2088E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
30	-1.0934E-04	-2.6279E-03	-1.4532E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
31	3.8525E-05	-2.6279E-03	-1.3921E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
32	1.8639E-04	-2.6279E-03	-1.3310E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
33	3.3425E-04	-2.6279E-03	-1.2699E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
34	4.8211E-04	-2.6279E-03	-1.2088E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
MINIMUM	-5.3943E-04	-3.6719E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
Pile N.	1	15	1	1	1	1
MAXIMUM	1.2348E-03	-2.6279E-03	-1.2088E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
Pile N.	14	30	29	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
1	-1577.3	-742.29	-979.35	-18.731	4223.9	-2535.5
2	-1093.2	-754.70	-976.33	-18.731	4215.8	-2583.5
3	-621.55	-766.70	-973.41	-18.731	4207.9	-2630.1
4	-149.89	-778.62	-970.50	-18.731	4200.0	-2676.5
5	323.06	-790.46	-967.60	-18.731	4192.2	-2722.8
6	796.61	-802.22	-964.72	-18.731	4184.3	-2768.8
7	1282.7	-814.20	-961.77	-18.731	4176.3	-2815.9
8	758.83	-757.22	-845.60	-18.731	3574.6	-2576.6
9	1244.9	-769.57	-842.62	-18.731	3566.5	-2624.6
10	1718.4	-781.51	-839.74	-18.731	3558.7	-2671.1
11	2192.0	-793.35	-836.87	-18.731	3550.8	-2717.5
12	2665.6	-805.10	-834.02	-18.731	3543.1	-2763.6
13	3139.1	-816.77	-831.19	-18.731	3535.3	-2809.6
14	3625.2	-828.67	-828.30	-18.731	3527.4	-2856.6
15	1716.2	-1502.8	-475.45	-18.731	1603.2	-6813.4
16	2150.3	-1504.9	-462.22	-18.731	1554.9	-6819.3
17	2584.4	-1506.9	-448.94	-18.731	1506.5	-6825.2
18	3018.5	-1508.8	-435.61	-18.731	1457.9	-6831.0
19	3452.6	-1510.7	-422.22	-18.731	1409.2	-6836.7

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandataria

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF1N 01 E ZZ RG MD0000 001 B 223 di 260

20	-1405.4	-1369.6	-490.58	-18.731	1638.3	-6114.4
21	-973.05	-1371.8	-477.10	-18.731	1589.4	-6120.8
22	-540.69	-1374.0	-463.55	-18.731	1540.2	-6127.1
23	-108.33	-1376.1	-449.94	-18.731	1491.0	-6133.4
24	325.33	-1378.3	-436.27	-18.731	1441.6	-6139.5
25	842.62	-2072.6	-456.47	-12.334	1293.9	-8098.6
26	1426.8	-2074.7	-435.13	-12.334	1226.6	-8102.9
27	2011.0	-2076.8	-413.70	-12.334	1159.2	-8107.1
28	2595.2	-2078.8	-392.18	-12.334	1091.6	-8111.0
29	3179.5	-2080.7	-370.57	-12.334	1023.8	-8114.9
30	-428.29	-1990.1	-461.66	-12.334	1303.1	-7731.9
31	152.21	-1992.3	-440.17	-12.334	1235.5	-7736.4
32	736.42	-1994.5	-418.57	-12.334	1167.7	-7740.7
33	1320.6	-1996.6	-396.87	-12.334	1099.8	-7744.9
34	1904.8	-1998.6	-375.08	-12.334	1031.7	-7748.9
MINIMUM	-1577.3	-2080.7	-979.35	-18.731	1023.8	-8114.9
Pile N.	1	29	1	1	29	1
MAXIMUM	3625.2	-742.29	-370.57	-12.334	4223.9	-2535.5
Pile N.	14	1	29	25	1	1

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x, RAD	ROT. y, RAD	ROT. z, RAD
1	-5.3943E-04	-3.2852E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
2	-3.7387E-04	-3.3479E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
3	-2.1256E-04	-3.4090E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
4	-5.1261E-05	-3.4701E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
5	1.1004E-04	-3.5312E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
6	2.7134E-04	-3.5923E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
7	4.3691E-04	-3.6550E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
8	2.5847E-04	-3.2852E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
9	4.2404E-04	-3.3479E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
10	5.8534E-04	-3.4090E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
11	7.4664E-04	-3.4701E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
12	9.0794E-04	-3.5312E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
13	1.0693E-03	-3.5923E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
14	1.2348E-03	-3.6550E-03	-2.0183E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
15	5.8456E-04	-3.6719E-03	-2.3054E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
16	7.3243E-04	-3.6719E-03	-2.2443E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
17	8.8029E-04	-3.6719E-03	-2.1832E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
18	1.0282E-03	-3.6719E-03	-2.1221E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
19	1.1760E-03	-3.6719E-03	-2.0610E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
20	-4.8064E-04	-3.2684E-03	-2.3054E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
21	-3.3277E-04	-3.2684E-03	-2.2443E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
22	-1.8491E-04	-3.2684E-03	-2.1832E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
23	-3.7047E-05	-3.2684E-03	-2.1221E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
24	1.1082E-04	-3.2684E-03	-2.0610E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
25	2.1327E-04	-2.7501E-03	-1.4532E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
26	3.6113E-04	-2.7501E-03	-1.3921E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
27	5.0899E-04	-2.7501E-03	-1.3310E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
28	6.5686E-04	-2.7501E-03	-1.2699E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
29	8.0472E-04	-2.7501E-03	-1.2088E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
30	-1.0934E-04	-2.6279E-03	-1.4532E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
31	3.8525E-05	-2.6279E-03	-1.3921E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
32	1.8639E-04	-2.6279E-03	-1.3310E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
33	3.3425E-04	-2.6279E-03	-1.2699E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
34	4.8211E-04	-2.6279E-03	-1.2088E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
MINIMUM	-5.3943E-04	-3.6719E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
Pile N.	1	15	1	1	1	1
MAXIMUM	1.2348E-03	-2.6279E-03	-1.2088E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
Pile N.	14	30	29	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
1	-1577.3	-742.29	-979.35	-18.731	4223.9	-2535.5
2	-1093.2	-754.70	-976.33	-18.731	4215.8	-2583.5
3	-621.55	-766.70	-973.41	-18.731	4207.9	-2630.1
4	-149.89	-778.62	-970.50	-18.731	4200.0	-2676.5
5	323.06	-790.46	-967.60	-18.731	4192.2	-2722.8
6	796.61	-802.22	-964.72	-18.731	4184.3	-2768.8
7	1282.7	-814.20	-961.77	-18.731	4176.3	-2815.9
8	758.83	-757.22	-845.60	-18.731	3574.6	-2576.6
9	1244.9	-769.57	-842.62	-18.731	3566.5	-2624.6
10	1718.4	-781.51	-839.74	-18.731	3558.7	-2671.1
11	2192.0	-793.35	-836.87	-18.731	3550.8	-2717.5
12	2665.6	-805.10	-834.02	-18.731	3543.1	-2763.6
13	3139.1	-816.77	-831.19	-18.731	3535.3	-2809.6
14	3625.2	-828.67	-828.30	-18.731	3527.4	-2856.6
15	1716.2	-1502.8	-475.45	-18.731	1603.2	-6813.4

<b>APPALTATORE:</b> Consorzio <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
<b>COMMESSA</b> IF1N	<b>LOTTO</b> 01 E ZZ	<b>CODIFICA</b> RG	<b>DOCUMENTO</b> MD0000 001	<b>REV.</b> B	<b>FOGLIO</b> 224 di 260

16	2150.3	-1504.9	-462.22	-18.731	1554.9	-6819.3
17	2584.4	-1506.9	-448.94	-18.731	1506.5	-6825.2
18	3018.5	-1508.8	-435.61	-18.731	1457.9	-6831.0
19	3452.6	-1510.7	-422.22	-18.731	1409.2	-6836.7
20	-1405.4	-1369.6	-490.58	-18.731	1638.3	-6114.4
21	-973.05	-1371.8	-477.10	-18.731	1589.4	-6120.8
22	-540.69	-1374.0	-463.55	-18.731	1540.2	-6127.1
23	-108.33	-1376.1	-449.94	-18.731	1491.0	-6133.4
24	325.33	-1378.3	-436.27	-18.731	1441.6	-6139.5
25	842.62	-2072.6	-456.47	-12.334	1293.9	-8098.6
26	1426.8	-2074.7	-435.13	-12.334	1226.6	-8102.9
27	2011.0	-2076.8	-413.70	-12.334	1159.2	-8107.1
28	2595.2	-2078.8	-392.18	-12.334	1091.6	-8111.0
29	3179.5	-2080.7	-370.57	-12.334	1023.8	-8114.9
30	-428.29	-1990.1	-461.66	-12.334	1303.1	-7731.9
31	152.21	-1992.3	-440.17	-12.334	1235.5	-7736.4
32	736.42	-1994.5	-418.57	-12.334	1167.7	-7740.7
33	1320.6	-1996.6	-396.87	-12.334	1099.8	-7744.9
34	1904.8	-1998.6	-375.08	-12.334	1031.7	-7748.9
MINIMUM	-1577.3	-2080.7	-979.35	-18.731	1023.8	-8114.9
Pile N.	1	29	1	1	29	29
MAXIMUM	3625.2	-742.29	-370.57	-12.334	4223.9	-2535.5
Pile N.	14	1	29	25	1	1

PILE GROUP STRESS, KN/ M\*\*2

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1	7897.8
2	7856.5
3	7816.1
4	7775.5
5	7949.7
6	8223.9
7	8505.1
8	7595.5
9	7880.2
10	8157.3
11	8434.1
12	8710.7
13	8986.9
14	9270.2
15	6662.7
16	6717.1
17	6772.7
18	6829.6
19	6888.0
20	6333.6
21	6092.0
22	5851.5
23	5612.3
24	5590.8
25	6444.5
26	6539.2
27	6637.6
28	6739.7
29	6846.0
30	6134.0
31	5937.8
32	6032.0
33	6130.0
34	6232.1
MINIMUM	5590.8
Pile N.	24
MAXIMUM	9270.2
Pile N.	14

\* EFFECTS FOR LATERALLY LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL.		MOMENT		SHEAR		SOIL REACT		TOTAL STRESS	FLEX. RIG.	
	y- M	z- M	y- KN- M	z- KN- M	y- KN	z- KN	y- KN/ M	z- KN/ M		FLEX. RIG. KN- M**2	FLEX. RIG. KN- M**2
1	-3.2852E-03	-2.3480E-03	-868.06	-1588.9	-742.20	-979.31	-166.75	-162.32	525.78	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.0000	50.000	0.0000	0.0000
2	-3.3479E-03	-2.3480E-03	-883.42	-1587.1	-754.64	-976.31	-169.33	-161.54	364.40	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.0000	50.000	0.0000	0.0000
3	-3.4090E-03	-2.3480E-03	-898.32	-1585.3	-766.67	-973.40	-171.81	-160.78	207.18	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	10.000	0.0000	0.0000	5.0000	5.0000	50.000	0.0000	0.0000
4	-3.4701E-03	-2.3480E-03	-913.16	-1583.9	-778.61	-970.50	-174.27	-160.03	49.964	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	10.000	0.0000	0.0000	5.0000	5.0000	50.000	0.0000	0.0000
5	-3.5312E-03	-2.3480E-03	-927.93	-1582.5	-790.48	-967.61	-176.70	-159.28	107.69	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	10.000	0.0000	0.0000	5.0000	5.0000	50.000	0.0000	0.0000
6	-3.5923E-03	-2.3480E-03	-942.65	-1581.1	-802.27	-964.73	-179.12	-158.53	265.54	1.1340E+07	4.9219E+07
x(M)	0.0000	0.0000	7.5000	10.000	0.0000	0.0000	5.0000	5.0000	50.000	0.0000	0.0000
7	-3.6551E-03	-2.3480E-03	-957.69	-1579.7	-814.28	-961.80	-181.57	-157.77	427.56	1.1340E+07	4.9219E+07



<b>APPALTATORE:</b> <b>Consorzio</b> <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> <b>Mandatario</b> <b>Mandanti</b>   						
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	<b>COMMESSA</b> <b>IF1N</b>	<b>LOTTO</b> <b>01 E ZZ</b>	<b>CODIFICA</b> <b>RG</b>	<b>DOCUMENTO</b> <b>MD0000 001</b>	<b>REV.</b> <b>B</b>	<b>FOGLIO</b> <b>225 di 260</b>

x( M)	0.0000	0.0000	7.5000	10.000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
8	-3.2852E-03	-2.0183E-03	-888.10	-1402.2	-757.26	-845.61	-171.47	-142.17	252.94	1.1340E+07	4.9219E+07
x( M)	0.0000	0.0000	7.5000	7.5000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
9	-3.3479E-03	-2.0183E-03	-903.59	-1400.4	-769.64	-842.64	-174.01	-141.37	414.97	1.1340E+07	4.9219E+07
x( M)	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
10	-3.4090E-03	-2.0183E-03	-918.62	-1398.6	-781.61	-839.77	-176.45	-140.61	572.82	1.1340E+07	4.9219E+07
x( M)	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
11	-3.4701E-03	-2.0183E-03	-933.57	-1396.8	-793.48	-836.91	-178.87	-139.85	730.67	1.1340E+07	4.9219E+07
x( M)	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
12	-3.5312E-03	-2.0183E-03	-948.46	-1394.9	-805.27	-834.06	-181.26	-139.10	888.52	1.1340E+07	4.9219E+07
x( M)	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
13	-3.5923E-03	-2.0183E-03	-963.28	-1393.1	-816.97	-831.24	-183.63	-138.35	1066.4	1.1340E+07	4.9219E+07
x( M)	0.0000	0.0000	7.5000	7.5000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
14	-3.6515E-03	-2.0183E-03	-978.41	-1391.2	-828.89	-828.37	-186.04	-137.60	1208.4	1.1340E+07	4.9219E+07
x( M)	0.0000	0.0000	7.5000	7.5000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
15	-3.6719E-03	-2.3054E-03	-2313.8	-566.87	-1502.9	-475.51	-240.17	-106.39	572.06	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
16	-3.6719E-03	-2.2443E-03	-2315.2	-552.09	-1504.9	-462.30	-240.67	-103.61	716.76	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
17	-3.6719E-03	-2.1832E-03	-2316.6	-537.27	-1507.0	-449.03	-241.16	-100.80	861.46	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
18	-3.6719E-03	-2.1221E-03	-2318.0	-522.41	-1508.9	-435.71	-241.64	-97.982	1006.2	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
19	-3.6719E-03	-2.0610E-03	-2319.4	-507.51	-1510.9	-422.33	-242.11	-95.144	1150.9	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
20	-3.2684E-03	-2.3054E-03	-2110.9	-580.55	-1369.5	-490.53	-222.28	-110.81	468.47	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
21	-3.2684E-03	-2.2443E-03	-2112.3	-565.45	-1371.8	-477.07	-222.84	-107.97	324.35	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
22	-3.2684E-03	-2.1832E-03	-2113.7	-550.29	-1374.0	-463.54	-223.40	-105.10	180.23	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
23	-3.2684E-03	-2.1221E-03	-2115.0	-535.10	-1376.1	-449.94	-223.94	-102.20	36.110	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
24	-3.2684E-03	-2.0610E-03	-2116.4	-519.86	-1378.3	-436.28	-224.47	-99.290	108.44	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
25	-2.7501E-03	-1.4532E-03	-4107.4	-618.22	-2072.6	-456.49	-224.5	-282.40	280.87	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	7.2000	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
26	-2.7501E-03	-1.3921E-03	-4107.8	-589.90	-2074.8	-435.16	-223.3	-268.58	475.61	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	7.2000	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
27	-2.7501E-03	-1.3310E-03	-4108.2	-561.59	-2076.8	-413.73	-223.61	-254.76	670.34	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	7.2000	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
28	-2.7501E-03	-1.2699E-03	-4108.6	-533.28	-2078.8	-392.22	-223.6	-240.95	865.08	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	7.2000	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
29	-2.7501E-03	-1.2088E-03	-4109.0	-504.96	-2080.8	-370.62	-223.5	-227.15	1059.8	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	7.2000	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
30	-2.6279E-03	-1.4532E-03	-3938.4	-620.20	-1990.1	-461.65	-223.6	-285.31	142.76	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	7.2000	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
31	-2.6279E-03	-1.3921E-03	-3938.8	-591.78	-1992.3	-440.17	-223.6	-271.34	50.738	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	7.2000	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
32	-2.6279E-03	-1.3310E-03	-3939.2	-563.35	-1994.5	-418.58	-223.7	-257.37	245.47	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	7.2000	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
33	-2.6279E-03	-1.2699E-03	-3939.6	-534.93	-1996.6	-396.90	-223.4	-243.41	440.21	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	7.2000	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
34	-2.6279E-03	-1.2088E-03	-3939.9	-506.51	-1998.7	-375.12	-223.2	-229.45	634.95	4.9219E+07	1.1340E+07
x( M)	0.0000	0.0000	7.2000	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
Min.	-3.6719E-03	-2.3480E-03	-4109.0	-1588.9	-2080.8	-979.31	-1237.5	-285.31	36.110	1.1340E+07	1.1340E+07
Pile N.	15	1	29	1	29	1	29	30	23	1	15

\* MAXIMUM VALUES AND LOCATIONS \*

PILE	DISPL.	DISPL.	MOMENT	MOMENT	SHEAR	SHEAR	SOIL REACT	SOIL REACT	TOTAL	FLEX. RIG.	FLEX. RIG.
	y-DIR	z-DIR	z-DIR	y-DIR	y-DIR	z-DIR	y-DIR	z-DIR	STRESS	z-DIR	y-DIR
	M	M	KN- M	KN- M	KN	KN	KN/ M	KN/ M	KN/ M**2	KN- M**2	KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	5.4160E-05	4.1125E-05	2535.5	4223.9	164.21	237.54	39.345	68.408	7897.8	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	14.000	13.500	21.500	0.0000	0.0000	0.0000
2	5.5356E-05	4.1053E-05	2583.5	4215.8	167.09	237.16	39.812	68.551	7856.5	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	14.000	13.500	21.500	0.0000	0.0000	0.0000
3	5.6522E-05	4.0982E-05	2630.1	4207.9	169.89	236.80	40.262	68.691	7816.1	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	14.000	13.500	21.500	0.0000	0.0000	0.0000
4	5.7689E-05	4.0912E-05	2676.5	4200.0	172.67	236.43	40.707	68.833	7775.5	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	14.000	13.500	21.500	0.0000	0.0000	0.0000
5	5.8857E-05	4.0842E-05	2722.8	4192.2	175.44	236.05	41.148	68.975	7949.7	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	14.000	13.500	21.500	0.0000	0.0000	0.0000
6	6.0026E-05	4.0772E-05	2768.8	4184.3	178.20	235.68	41.585	69.119	8223.9	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	14.000	13.500	21.500	0.0000	0.0000	0.0000
7	6.1225E-05	4.0700E-05	2815.9	4176.3	181.01	235.30	42.029	69.268	8505.1	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	14.000	13.500	21.500	0.0000	0.0000	0.0000
8	5.5535E-05	3.5932E-05	2576.6	3574.6	170.52	212.09	39.686	52.120	7595.5	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	13.500	13.000	21.500	0.0000	0.0000	0.0000
9	5.6783E-05	3.5885E-05	2624.6	3566.5	173.48	211.63	40.114	52.282	7880.2	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	13.500	13.000	21.500	0.0000	0.0000	0.0000
10	5.8001E-05	3.5840E-05	2671.1	3558.7	176.35	211.17	40.526	52.440	8157.3	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	13.500	13.000	21.500	0.0000	0.0000	0.0000
11	5.9220E-05	3.5794E-05	2717.5	3550.8	179.21	210.71	40.980	52.599	8434.1	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	13.500	13.000	21.500	0.0000	0.0000	0.0000
12	6.0440E-05	3.5749E-05	2763.6	3543.1	182.05	210.26	41.450	52.759	8710.7	1.1340E+07	4.9219E+07

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APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandataria

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	226 di 260

x( M)	13.000	16.500	0.0000	0.0000	11.000	13.500	13.500	21.500	0.0000	0.0000	0.0000
13	6.1660E-05	3.5703E-05	2809.6	3535.3	184.88	209.80	41.915	52.919	8986.9	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	13.500	13.500	21.500	0.0000	0.0000	0.0000
14	6.2914E-05	3.5657E-05	2856.6	3527.4	187.77	209.34	42.387	53.085	9270.2	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	13.500	13.500	21.500	0.0000	0.0000	0.0000
15	5.9648E-05	3.4099E-05	6813.4	1603.2	339.72	102.21	137.70	30.609	6662.7	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.500	21.500	14.000	0.0000	0.0000	0.0000
16	5.9826E-05	3.3088E-05	6819.3	1554.9	340.18	99.561	137.73	30.120	6717.1	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.500	21.500	14.000	0.0000	0.0000	0.0000
17	6.0005E-05	3.2080E-05	6825.2	1506.5	340.65	96.906	137.77	29.620	6772.7	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.500	21.500	14.000	0.0000	0.0000	0.0000
18	6.0186E-05	3.1075E-05	6831.0	1457.9	341.12	94.259	137.82	29.108	6829.6	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.000	21.500	14.000	0.0000	0.0000	0.0000
19	6.0370E-05	3.0073E-05	6836.7	1409.2	341.59	91.635	137.87	28.583	6888.0	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.000	21.500	14.000	0.0000	0.0000	0.0000
20	5.5044E-05	3.4322E-05	6114.4	1638.3	310.96	106.09	116.07	30.066	6333.6	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.000	21.500	14.000	0.0000	0.0000	0.0000
21	5.5191E-05	3.3285E-05	6120.8	1589.4	311.35	103.41	116.07	29.489	6092.0	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.000	21.500	14.000	0.0000	0.0000	0.0000
22	5.5339E-05	3.2252E-05	6127.1	1540.2	311.73	100.70	116.07	28.896	5851.5	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.000	21.500	14.000	0.0000	0.0000	0.0000
23	5.5490E-05	3.1222E-05	6133.4	1491.0	312.12	97.991	116.07	28.286	5612.3	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.000	21.500	14.000	0.0000	0.0000	0.0000
24	5.5642E-05	3.0195E-05	6139.5	1441.6	312.51	95.265	116.08	27.713	5590.8	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.000	21.500	13.500	0.0000	0.0000	0.0000
25	4.4427E-05	1.4620E-05	8098.6	1293.9	1060.6	215.22	290.35	81.758	6444.5	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
26	4.4436E-05	1.3958E-05	8102.9	1226.6	1060.7	205.27	290.37	77.968	6539.2	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
27	4.4445E-05	1.3295E-05	8107.1	1159.2	1060.8	195.32	290.39	74.179	6637.6	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
28	4.4453E-05	1.2632E-05	8111.0	1091.6	1061.0	185.37	290.41	70.390	6739.7	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
29	4.4461E-05	1.1968E-05	8114.9	1023.8	1061.1	175.42	290.42	66.602	6846.0	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
30	4.2687E-05	1.4764E-05	7731.9	1303.1	1017.2	216.24	277.98	82.086	6134.0	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
31	4.2695E-05	1.4094E-05	7736.4	1235.5	1017.3	206.22	278.00	78.275	5937.8	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
32	4.2703E-05	1.3424E-05	7740.7	1167.7	1017.5	196.21	278.01	74.465	6032.0	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
33	4.2710E-05	1.2753E-05	7744.9	1099.8	1017.6	186.20	278.02	70.656	6130.0	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
34	4.2717E-05	1.2081E-05	7748.9	1031.7	1017.7	176.19	278.03	66.848	6232.1	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
Max.	6.2914E-05	4.1125E-05	8114.9	4223.9	1061.1	237.54	290.42	82.086	9270.2	4.9219E+07	4.9219E+07
Pile N.	14	1	29	1	29	1	29	30	14	15	1

LOAD CASE : 21  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
43850.1	-28992.4	123.441
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
20.5255	1477.71	-3.49617E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
3.98748E-04	-1.28522E-03	1.06985E-05
ANGLE ROT. X, RAD	ANGLE ROT. Y, RAD	ANGLE ROT. Z, RAD
1.81139E-08	5.36344E-07	-1.27792E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
1	4.9442E-04	-1.2854E-03	1.0828E-05	1.8114E-08	5.3634E-07	-1.2779E-05

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandatario

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 227 di 260
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2	4.9296E-04	-1.2853E-03	1.0828E-05	1.8114E-08	5.3634E-07	-1.2779E-05
3	4.9154E-04	-1.2853E-03	1.0828E-05	1.8114E-08	5.3634E-07	-1.2779E-05
4	4.9012E-04	-1.2852E-03	1.0828E-05	1.8114E-08	5.3634E-07	-1.2779E-05
5	4.8870E-04	-1.2852E-03	1.0828E-05	1.8114E-08	5.3634E-07	-1.2779E-05
6	4.8728E-04	-1.2851E-03	1.0828E-05	1.8114E-08	5.3634E-07	-1.2779E-05
7	4.8582E-04	-1.2851E-03	1.0828E-05	1.8114E-08	5.3634E-07	-1.2779E-05
8	3.1168E-04	-1.2854E-03	1.0569E-05	1.8114E-08	5.3634E-07	-1.2779E-05
9	3.1022E-04	-1.2853E-03	1.0569E-05	1.8114E-08	5.3634E-07	-1.2779E-05
10	3.0880E-04	-1.2853E-03	1.0569E-05	1.8114E-08	5.3634E-07	-1.2779E-05
11	3.0738E-04	-1.2852E-03	1.0569E-05	1.8114E-08	5.3634E-07	-1.2779E-05
12	3.0596E-04	-1.2852E-03	1.0569E-05	1.8114E-08	5.3634E-07	-1.2779E-05
13	3.0453E-04	-1.2851E-03	1.0569E-05	1.8114E-08	5.3634E-07	-1.2779E-05
14	3.0307E-04	-1.2851E-03	1.0569E-05	1.8114E-08	5.3634E-07	-1.2779E-05
15	4.6178E-04	-1.2851E-03	1.0794E-05	1.8114E-08	5.3634E-07	-1.2779E-05
16	4.2792E-04	-1.2851E-03	1.0746E-05	1.8114E-08	5.3634E-07	-1.2779E-05
17	3.9405E-04	-1.2851E-03	1.0698E-05	1.8114E-08	5.3634E-07	-1.2779E-05
18	3.6019E-04	-1.2851E-03	1.0651E-05	1.8114E-08	5.3634E-07	-1.2779E-05
19	3.2632E-04	-1.2851E-03	1.0603E-05	1.8114E-08	5.3634E-07	-1.2779E-05
20	4.7117E-04	-1.2854E-03	1.0794E-05	1.8114E-08	5.3634E-07	-1.2779E-05
21	4.3731E-04	-1.2854E-03	1.0746E-05	1.8114E-08	5.3634E-07	-1.2779E-05
22	4.0344E-04	-1.2854E-03	1.0698E-05	1.8114E-08	5.3634E-07	-1.2779E-05
23	3.6958E-04	-1.2854E-03	1.0651E-05	1.8114E-08	5.3634E-07	-1.2779E-05
24	3.3571E-04	-1.2854E-03	1.0603E-05	1.8114E-08	5.3634E-07	-1.2779E-05
25	4.6506E-04	-1.4641E-03	3.2857E-06	1.8114E-08	5.3634E-07	-1.2779E-05
26	4.3119E-04	-1.4641E-03	3.2377E-06	1.8114E-08	5.3634E-07	-1.2779E-05
27	3.9733E-04	-1.4641E-03	3.1897E-06	1.8114E-08	5.3634E-07	-1.2779E-05
28	3.6346E-04	-1.4641E-03	3.1417E-06	1.8114E-08	5.3634E-07	-1.2779E-05
29	3.2960E-04	-1.4641E-03	3.0937E-06	1.8114E-08	5.3634E-07	-1.2779E-05
30	4.6790E-04	-1.4642E-03	3.2857E-06	1.8114E-08	5.3634E-07	-1.2779E-05
31	4.3403E-04	-1.4642E-03	3.2377E-06	1.8114E-08	5.3634E-07	-1.2779E-05
32	4.0017E-04	-1.4642E-03	3.1897E-06	1.8114E-08	5.3634E-07	-1.2779E-05
33	3.6630E-04	-1.4642E-03	3.1417E-06	1.8114E-08	5.3634E-07	-1.2779E-05
34	3.3244E-04	-1.4642E-03	3.0937E-06	1.8114E-08	5.3634E-07	-1.2779E-05
MINIMUM	3.0307E-04	-1.4642E-03	3.0937E-06	1.8114E-08	5.3634E-07	-1.2779E-05
Pile N.	14	30	29	1	1	1
MAXIMUM	4.9442E-04	-1.2851E-03	1.0828E-05	1.8114E-08	5.3634E-07	-1.2779E-05
Pile N.	1	15	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	1451.5	-464.30	6.3586	0.014716	-22.823	-1497.8
2	1447.2	-464.28	6.3587	0.014716	-22.824	-1497.7
3	1443.1	-464.27	6.3587	0.014716	-22.824	-1497.7
4	1438.9	-464.26	6.3588	0.014716	-22.824	-1497.6
5	1434.7	-464.25	6.3589	0.014716	-22.824	-1497.6
6	1430.6	-464.24	6.3589	0.014716	-22.824	-1497.5
7	1426.3	-464.23	6.3590	0.014716	-22.824	-1497.5
8	915.03	-464.38	6.1678	0.014716	-22.033	-1497.8
9	910.74	-464.37	6.1679	0.014716	-22.033	-1497.7
10	906.57	-464.36	6.1679	0.014716	-22.033	-1497.7
11	902.40	-464.35	6.1680	0.014716	-22.034	-1497.7
12	898.22	-464.34	6.1681	0.014716	-22.034	-1497.6
13	894.05	-464.32	6.1681	0.014716	-22.034	-1497.6
14	889.77	-464.31	6.1682	0.014716	-22.034	-1497.5
15	1355.7	-836.84	2.8992	0.014716	-8.2451	-3630.7
16	1256.3	-836.85	2.8840	0.014716	-8.1961	-3630.7
17	1156.9	-836.86	2.8688	0.014716	-8.1470	-3630.7
18	1057.4	-836.88	2.8536	0.014716	-8.0980	-3630.7
19	958.03	-836.89	2.8384	0.014716	-8.0489	-3630.7
20	1383.3	-836.98	2.8989	0.014716	-8.2447	-3631.3
21	1283.8	-836.99	2.8837	0.014716	-8.1956	-3631.3
22	1184.4	-837.00	2.8685	0.014716	-8.1466	-3631.4
23	1085.0	-837.01	2.8533	0.014716	-8.0975	-3631.4
24	985.58	-837.02	2.8381	0.014716	-8.0485	-3631.4
25	1837.4	-1412.2	0.7479	9.6902E-03	-0.9716	-5540.6
26	1703.6	-1412.2	0.7273	9.6902E-03	-0.9121	-5540.6
27	1569.8	-1412.2	0.7067	9.6902E-03	-0.8526	-5540.6
28	1436.0	-1412.3	0.6861	9.6902E-03	-0.7931	-5540.6
29	1302.2	-1412.3	0.6655	9.6902E-03	-0.7336	-5540.7
30	1848.7	-1412.3	0.7478	9.6902E-03	-0.9716	-5540.9
31	1714.9	-1412.3	0.7273	9.6902E-03	-0.9121	-5540.9
32	1581.1	-1412.3	0.7067	9.6902E-03	-0.8526	-5540.9
33	1447.3	-1412.3	0.6861	9.6902E-03	-0.7931	-5540.9
34	1313.5	-1412.4	0.6655	9.6902E-03	-0.7336	-5541.0
MINIMUM	889.77	-1412.4	0.6655	9.6902E-03	-22.824	-5541.0
Pile N.	14	34	34	25	2	34
MAXIMUM	1848.7	-464.23	6.3590	0.014716	-0.7336	-1497.5
Pile N.	30	7	7	1	34	6

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandatario

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 228 di 260
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PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
1	4.9442E-04	-1.2854E-03	1.0828E-05	1.8114E-08	5.3634E-07	-1.2779E-05
2	4.9296E-04	-1.2853E-03	1.0828E-05	1.8114E-08	5.3634E-07	-1.2779E-05
3	4.9154E-04	-1.2853E-03	1.0828E-05	1.8114E-08	5.3634E-07	-1.2779E-05
4	4.9012E-04	-1.2852E-03	1.0828E-05	1.8114E-08	5.3634E-07	-1.2779E-05
5	4.8870E-04	-1.2852E-03	1.0828E-05	1.8114E-08	5.3634E-07	-1.2779E-05
6	4.8728E-04	-1.2851E-03	1.0828E-05	1.8114E-08	5.3634E-07	-1.2779E-05
7	4.8582E-04	-1.2851E-03	1.0828E-05	1.8114E-08	5.3634E-07	-1.2779E-05
8	3.1168E-04	-1.2854E-03	1.0569E-05	1.8114E-08	5.3634E-07	-1.2779E-05
9	3.1022E-04	-1.2853E-03	1.0569E-05	1.8114E-08	5.3634E-07	-1.2779E-05
10	3.0880E-04	-1.2853E-03	1.0569E-05	1.8114E-08	5.3634E-07	-1.2779E-05
11	3.0738E-04	-1.2852E-03	1.0569E-05	1.8114E-08	5.3634E-07	-1.2779E-05
12	3.0596E-04	-1.2852E-03	1.0569E-05	1.8114E-08	5.3634E-07	-1.2779E-05
13	3.0453E-04	-1.2851E-03	1.0569E-05	1.8114E-08	5.3634E-07	-1.2779E-05
14	3.0307E-04	-1.2851E-03	1.0569E-05	1.8114E-08	5.3634E-07	-1.2779E-05
15	4.6178E-04	-1.2851E-03	1.0794E-05	1.8114E-08	5.3634E-07	-1.2779E-05
16	4.2792E-04	-1.2851E-03	1.0746E-05	1.8114E-08	5.3634E-07	-1.2779E-05
17	3.9405E-04	-1.2851E-03	1.0698E-05	1.8114E-08	5.3634E-07	-1.2779E-05
18	3.6019E-04	-1.2851E-03	1.0651E-05	1.8114E-08	5.3634E-07	-1.2779E-05
19	3.2632E-04	-1.2851E-03	1.0603E-05	1.8114E-08	5.3634E-07	-1.2779E-05
20	4.7117E-04	-1.2854E-03	1.0794E-05	1.8114E-08	5.3634E-07	-1.2779E-05
21	4.3731E-04	-1.2854E-03	1.0746E-05	1.8114E-08	5.3634E-07	-1.2779E-05
22	4.0344E-04	-1.2854E-03	1.0698E-05	1.8114E-08	5.3634E-07	-1.2779E-05
23	3.6958E-04	-1.2854E-03	1.0651E-05	1.8114E-08	5.3634E-07	-1.2779E-05
24	3.3571E-04	-1.2854E-03	1.0603E-05	1.8114E-08	5.3634E-07	-1.2779E-05
25	4.6506E-04	-1.4641E-03	3.2857E-06	1.8114E-08	5.3634E-07	-1.2779E-05
26	4.3119E-04	-1.4641E-03	3.2377E-06	1.8114E-08	5.3634E-07	-1.2779E-05
27	3.9733E-04	-1.4641E-03	3.1897E-06	1.8114E-08	5.3634E-07	-1.2779E-05
28	3.6346E-04	-1.4641E-03	3.1417E-06	1.8114E-08	5.3634E-07	-1.2779E-05
29	3.2960E-04	-1.4641E-03	3.0937E-06	1.8114E-08	5.3634E-07	-1.2779E-05
30	4.6790E-04	-1.4642E-03	3.2857E-06	1.8114E-08	5.3634E-07	-1.2779E-05
31	4.3403E-04	-1.4642E-03	3.2377E-06	1.8114E-08	5.3634E-07	-1.2779E-05
32	4.0017E-04	-1.4642E-03	3.1897E-06	1.8114E-08	5.3634E-07	-1.2779E-05
33	3.6630E-04	-1.4642E-03	3.1417E-06	1.8114E-08	5.3634E-07	-1.2779E-05
34	3.3244E-04	-1.4642E-03	3.0937E-06	1.8114E-08	5.3634E-07	-1.2779E-05
MINIMUM	3.0307E-04	-1.4642E-03	3.0937E-06	1.8114E-08	5.3634E-07	-1.2779E-05
Pile N.	14	30	29	1	1	1
MAXIMUM	4.9442E-04	-1.2851E-03	1.0828E-05	1.8114E-08	5.3634E-07	-1.2779E-05
Pile N.	1	15	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	1451.5	-464.30	6.3586	0.014716	-22.823	-1497.8
2	1447.2	-464.28	6.3587	0.014716	-22.824	-1497.7
3	1443.1	-464.27	6.3587	0.014716	-22.824	-1497.7
4	1438.9	-464.26	6.3588	0.014716	-22.824	-1497.6
5	1434.7	-464.25	6.3589	0.014716	-22.824	-1497.6
6	1430.6	-464.24	6.3589	0.014716	-22.824	-1497.5
7	1426.3	-464.23	6.3590	0.014716	-22.824	-1497.5
8	915.03	-464.38	6.1678	0.014716	-22.033	-1497.8
9	910.74	-464.37	6.1679	0.014716	-22.033	-1497.7
10	906.57	-464.36	6.1679	0.014716	-22.033	-1497.7
11	902.40	-464.35	6.1680	0.014716	-22.034	-1497.7
12	898.22	-464.34	6.1681	0.014716	-22.034	-1497.6
13	894.05	-464.32	6.1681	0.014716	-22.034	-1497.6
14	889.77	-464.31	6.1682	0.014716	-22.034	-1497.5
15	1355.7	-836.84	2.8992	0.014716	-8.2451	-3630.7
16	1256.3	-836.85	2.8840	0.014716	-8.1961	-3630.7
17	1156.9	-836.86	2.8688	0.014716	-8.1470	-3630.7
18	1057.4	-836.88	2.8536	0.014716	-8.0980	-3630.7
19	958.03	-836.89	2.8384	0.014716	-8.0489	-3630.7
20	1383.3	-836.98	2.8989	0.014716	-8.2447	-3631.3
21	1283.8	-836.99	2.8837	0.014716	-8.1956	-3631.3
22	1184.4	-837.00	2.8685	0.014716	-8.1466	-3631.4
23	1085.0	-837.01	2.8533	0.014716	-8.0975	-3631.4
24	985.58	-837.02	2.8381	0.014716	-8.0485	-3631.4
25	1837.4	-1412.2	0.7479	9.6902E-03	-0.9716	-5540.6
26	1703.6	-1412.2	0.7273	9.6902E-03	-0.9121	-5540.6
27	1569.8	-1412.2	0.7067	9.6902E-03	-0.8526	-5540.6
28	1436.0	-1412.3	0.6861	9.6902E-03	-0.7931	-5540.6
29	1302.2	-1412.3	0.6655	9.6902E-03	-0.7336	-5540.7
30	1848.7	-1412.3	0.7478	9.6902E-03	-0.9716	-5540.9
31	1714.9	-1412.3	0.7273	9.6902E-03	-0.9121	-5540.9
32	1581.1	-1412.3	0.7067	9.6902E-03	-0.8526	-5540.9
33	1447.3	-1412.3	0.6861	9.6902E-03	-0.7931	-5540.9
34	1313.5	-1412.4	0.6655	9.6902E-03	-0.7336	-5541.0
MINIMUM	889.77	-1412.4	0.6655	9.6902E-03	-22.824	-5541.0
Pile N.	14	34	34	25	2	34
MAXIMUM	1848.7	-464.23	6.3590	0.014716	-0.7336	-1497.5
Pile N.	30	7	7	1	34	6

PILE GROUP STRESS, KN/ M\*\*2

APPALTATORE: Consorzio  Soci  	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>						
PROGETTAZIONE: Mandataria  Mandanti  							
PROGETTO ESECUTIVO RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B	<table border="1"> <tr> <td>COMMESSA IF1N</td> <td>LOTTO 01 E ZZ</td> <td>CODIFICA RG</td> <td>DOCUMENTO MD0000 001</td> <td>REV. B</td> <td>FOGLIO 229 di 260</td> </tr> </table>	COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 229 di 260
COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 229 di 260		

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1	4549.5
2	4547.9
3	4546.4
4	4544.9
5	4543.4
6	4541.9
7	4540.3
8	4370.7
9	4369.1
10	4367.6
11	4366.1
12	4364.6
13	4363.1
14	4361.6
15	2722.7
16	2689.5
17	2656.4
18	2623.2
19	2590.1
20	2732.3
21	2699.1
22	2666.0
23	2632.9
24	2599.7
25	4077.6
26	4033.0
27	3988.4
28	3943.8
29	3899.2
30	4081.5
31	4037.0
32	3992.4
33	3947.8
34	3903.2

MINIMUM 2590.1  
Pile N. 19  
MAXIMUM 4549.5  
Pile N. 1

\* EFFECTS FOR LATERALLY LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2	FLEX. RIG. z-DIR KN- M**2	FLEX. RIG. y-DIR KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	-1.2854E-03	-2.2692E-07	-496.32	-22.823	-464.34	-1.9779	-116.09	-0.4212	483.84	1.1340E+07	4.9219E+07
X( M)	0.0000	13.500	7.0000	0.0000	0.0000	11.000	4.5000	14.000	50.000	0.0000	0.0000
2	-1.2853E-03	-2.2692E-07	-496.30	-22.824	-464.33	-1.9779	-116.09	-0.4212	482.41	1.1340E+07	4.9219E+07
X( M)	0.0000	13.500	7.0000	0.0000	0.0000	11.000	4.5000	14.000	50.000	0.0000	0.0000
3	-1.2853E-03	-2.2692E-07	-496.28	-22.824	-464.32	-1.9779	-116.09	-0.4212	481.02	1.1340E+07	4.9219E+07
X( M)	0.0000	13.500	7.0000	0.0000	0.0000	11.000	4.5000	14.000	50.000	0.0000	0.0000
4	-1.2852E-03	-2.2693E-07	-496.27	-22.824	-464.31	-1.9780	-116.08	-0.4212	479.63	1.1340E+07	4.9219E+07
X( M)	0.0000	13.500	7.0000	0.0000	0.0000	11.000	4.5000	14.000	50.000	0.0000	0.0000
5	-1.2852E-03	-2.2693E-07	-496.25	-22.824	-464.30	-1.9780	-116.08	-0.4212	478.24	1.1340E+07	4.9219E+07
X( M)	0.0000	13.500	7.0000	0.0000	0.0000	11.000	4.5000	14.000	50.000	0.0000	0.0000
6	-1.2851E-03	-2.2693E-07	-496.24	-22.824	-464.29	-1.9780	-116.08	-0.4212	476.85	1.1340E+07	4.9219E+07
X( M)	0.0000	13.500	7.0000	0.0000	0.0000	11.000	4.5000	14.000	50.000	0.0000	0.0000
7	-1.2851E-03	-2.2693E-07	-496.22	-22.824	-464.27	-1.9780	-116.08	-0.4212	475.42	1.1340E+07	4.9219E+07
X( M)	0.0000	13.500	7.0000	0.0000	0.0000	11.000	4.5000	14.000	50.000	0.0000	0.0000
8	-1.2854E-03	-2.2130E-07	-496.27	-22.033	-464.41	-1.9272	-116.09	-0.4104	305.01	1.1340E+07	4.9219E+07
X( M)	0.0000	13.500	7.0000	0.0000	0.0000	11.000	4.5000	14.000	50.000	0.0000	0.0000
9	-1.2853E-03	-2.2130E-07	-496.25	-22.033	-464.40	-1.9272	-116.09	-0.4104	303.58	1.1340E+07	4.9219E+07
X( M)	0.0000	13.500	7.0000	0.0000	0.0000	11.000	4.5000	14.000	50.000	0.0000	0.0000
10	-1.2853E-03	-2.2130E-07	-496.24	-22.033	-464.39	-1.9272	-116.09	-0.4104	302.19	1.1340E+07	4.9219E+07
X( M)	0.0000	13.500	7.0000	0.0000	0.0000	11.000	4.5000	14.000	50.000	0.0000	0.0000
11	-1.2852E-03	-2.2130E-07	-496.22	-22.034	-464.38	-1.9273	-116.09	-0.4104	300.80	1.1340E+07	4.9219E+07
X( M)	0.0000	13.500	7.0000	0.0000	0.0000	11.000	4.5000	14.000	50.000	0.0000	0.0000
12	-1.2852E-03	-2.2131E-07	-496.20	-22.034	-464.36	-1.9273	-116.08	-0.4104	299.41	1.1340E+07	4.9219E+07
X( M)	0.0000	13.500	7.0000	0.0000	0.0000	11.000	4.5000	14.000	50.000	0.0000	0.0000
13	-1.2851E-03	-2.2131E-07	-496.19	-22.034	-464.35	-1.9273	-116.08	-0.4104	298.02	1.1340E+07	4.9219E+07
X( M)	0.0000	13.500	7.0000	0.0000	0.0000	11.000	4.5000	14.000	50.000	0.0000	0.0000
14	-1.2851E-03	-2.2131E-07	-496.17	-22.034	-464.34	-1.9273	-116.08	-0.4104	296.59	1.1340E+07	4.9219E+07
X( M)	0.0000	13.500	7.0000	0.0000	0.0000	11.000	4.5000	14.000	50.000	0.0000	0.0000
15	-1.2851E-03	-1.5002E-07	-1097.1	-8.2451	-836.87	-0.7002	-147.36	-0.2430	451.90	4.9219E+07	1.1340E+07
X( M)	0.0000	12.000	9.5000	0.0000	0.0000	10.000	5.5000	12.000	50.000	0.0000	0.0000
16	-1.2851E-03	-1.4932E-07	-1097.1	-8.1961	-836.88	-0.6968	-147.36	-0.2419	418.76	4.9219E+07	1.1340E+07
X( M)	0.0000	12.000	9.5000	0.0000	0.0000	10.000	5.5000	12.000	50.000	0.0000	0.0000
17	-1.2851E-03	-1.4861E-07	-1097.1	-8.1470	-836.89	-0.6935	-147.36	-0.2407	385.62	4.9219E+07	1.1340E+07
X( M)	0.0000	12.000	9.5000	0.0000	0.0000	10.000	5.5000	12.000	50.000	0.0000	0.0000
18	-1.2851E-03	-1.4790E-07	-1097.1	-8.0980	-836.90	-0.6901	-147.36	-0.2396	352.48	4.9219E+07	1.1340E+07
X( M)	0.0000	12.000	9.5000	0.0000	0.0000	10.000	5.5000	12.000	50.000	0.0000	0.0000
19	-1.2851E-03	-1.4719E-07	-1097.0	-8.0489	-836.90	-0.6868	-147.36	-0.2384	319.34	4.9219E+07	1.1340E+07
X( M)	0.0000	12.000	9.5000	0.0000	0.0000	10.000	5.5000	12.000	50.000	0.0000	0.0000
20	-1.2854E-03	-1.5002E-07	-1097.3	-8.2447	-837.00	-0.7001	-147.38	-0.2430	461.09	4.9219E+07	1.1340E+07

<b>APPALTATORE:</b> Consorzio  Soci  				<b>ITINERARIO NAPOLI – BARI</b>						
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  				<b>RADDOPPIO TRATTA APICE – ORSARA I LOTTO FUNZIONALE APICE – HIRPINIA</b>						
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>				COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	
				IF1N	01 E ZZ	RG	MD0000 001	B	230 di 260	

x( M)	0.0000	12.000	9.5000	0.0000	0.0000	10.000	5.5000	12.000	50.000	0.0000	0.0000
21	-1.2854E-03	-1.4932E-07	-1097.3	-8.1956	-837.01	-0.6968	-147.38	-0.2419	427.95	4.9219E+07	1.1340E+07
x( M)	0.0000	12.000	9.5000	0.0000	0.0000	10.000	5.5000	12.000	50.000	0.0000	0.0000
22	-1.2854E-03	-1.4861E-07	-1097.3	-8.1466	-837.02	-0.6935	-147.38	-0.2407	394.81	4.9219E+07	1.1340E+07
x( M)	0.0000	12.000	9.5000	0.0000	0.0000	10.000	5.5000	12.000	50.000	0.0000	0.0000
23	-1.2854E-03	-1.4790E-07	-1097.3	-8.0975	-837.03	-0.6901	-147.38	-0.2396	361.67	4.9219E+07	1.1340E+07
x( M)	0.0000	12.000	9.5000	0.0000	0.0000	10.000	5.5000	12.000	50.000	0.0000	0.0000
24	-1.2854E-03	-1.4719E-07	-1097.3	-8.0485	-837.04	-0.6868	-147.38	-0.2384	328.53	4.9219E+07	1.1340E+07
x( M)	0.0000	12.000	9.5000	0.0000	0.0000	10.000	5.5000	12.000	50.000	0.0000	0.0000
25	-1.4641E-03	-2.7175E-08	-2423.9	-0.9716	-1412.2	-0.3811	-884.43	-0.1426	612.48	4.9219E+07	1.1340E+07
x( M)	0.0000	9.7200	7.9200	0.0000	0.0000	8.2800	7.2000	9.7200	36.000	0.0000	0.0000
26	-1.4641E-03	-2.6630E-08	-2423.9	-0.9121	-1412.3	-0.3735	-884.44	-0.1398	567.88	4.9219E+07	1.1340E+07
x( M)	0.0000	9.7200	7.9200	0.0000	0.0000	8.2800	7.2000	9.7200	36.000	0.0000	0.0000
27	-1.4641E-03	-2.6085E-08	-2423.9	-0.8526	-1412.3	-0.3659	-884.44	-0.1369	523.28	4.9219E+07	1.1340E+07
x( M)	0.0000	9.7200	7.9200	0.0000	0.0000	8.2800	7.2000	9.7200	36.000	0.0000	0.0000
28	-1.4641E-03	-2.5540E-08	-2423.9	-0.7931	-1412.3	-0.3583	-884.44	-0.1341	478.68	4.9219E+07	1.1340E+07
x( M)	0.0000	9.7200	7.9200	0.0000	0.0000	8.2800	7.2000	9.7200	36.000	0.0000	0.0000
29	-1.4641E-03	-2.4995E-08	-2423.9	-0.7336	-1412.3	-0.3507	-884.44	-0.1312	434.08	4.9219E+07	1.1340E+07
x( M)	0.0000	9.7200	7.9200	0.0000	0.0000	8.2800	7.2000	9.7200	36.000	0.0000	0.0000
30	-1.4642E-03	-2.7175E-08	-2424.1	-0.9716	-1412.3	-0.3811	-884.47	-0.1426	616.22	4.9219E+07	1.1340E+07
x( M)	0.0000	9.7200	7.9200	0.0000	0.0000	8.2800	7.2000	9.7200	36.000	0.0000	0.0000
31	-1.4642E-03	-2.6630E-08	-2424.1	-0.9121	-1412.3	-0.3735	-884.47	-0.1398	571.62	4.9219E+07	1.1340E+07
x( M)	0.0000	9.7200	7.9200	0.0000	0.0000	8.2800	7.2000	9.7200	36.000	0.0000	0.0000
32	-1.4642E-03	-2.6085E-08	-2424.1	-0.8526	-1412.3	-0.3659	-884.47	-0.1369	527.02	4.9219E+07	1.1340E+07
x( M)	0.0000	9.7200	7.9200	0.0000	0.0000	8.2800	7.2000	9.7200	36.000	0.0000	0.0000
33	-1.4642E-03	-2.5540E-08	-2424.1	-0.7931	-1412.4	-0.3583	-884.48	-0.1341	482.42	4.9219E+07	1.1340E+07
x( M)	0.0000	9.7200	7.9200	0.0000	0.0000	8.2800	7.2000	9.7200	36.000	0.0000	0.0000
34	-1.4642E-03	-2.4995E-08	-2424.1	-0.7336	-1412.4	-0.3507	-884.48	-0.1312	437.82	4.9219E+07	1.1340E+07
x( M)	0.0000	9.7200	7.9200	0.0000	0.0000	8.2800	7.2000	9.7200	36.000	0.0000	0.0000
Min.	-1.4642E-03	-2.2693E-07	-2424.1	-22.824	-1412.4	-1.9780	-884.48	-0.4212	296.59	1.1340E+07	1.1340E+07
Pile N.	30	4	2	33	4	33	1	14	1	15	

\* MAXIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR	DISPL. z-DIR	MOMENT z-DIR	MOMENT y-DIR	SHEAR y-DIR	SHEAR z-DIR	SOIL REACT y-DIR	SOIL REACT z-DIR	TOTAL STRESS	FLEX. RIG. z-DIR	FLEX. RIG. y-DIR
	M	M	KN- M	KN- M	KN	KN	KN/ M	KN/ M	KN/ M**2	KN- M**2	KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	2.6924E-05	1.0828E-05	1497.8	11.013	119.16	6.3587	28.077	1.4297	4549.5	1.1340E+07	4.9219E+07
x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
2	2.6923E-05	1.0828E-05	1497.7	11.013	119.16	6.3588	28.076	1.4297	4547.9	1.1340E+07	4.9219E+07
x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
3	2.6922E-05	1.0828E-05	1497.7	11.013	119.15	6.3589	28.076	1.4298	4546.4	1.1340E+07	4.9219E+07
x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
4	2.6921E-05	1.0828E-05	1497.6	11.014	119.15	6.3590	28.075	1.4298	4544.9	1.1340E+07	4.9219E+07
x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
5	2.6920E-05	1.0828E-05	1497.6	11.014	119.15	6.3590	28.074	1.4298	4543.4	1.1340E+07	4.9219E+07
x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
6	2.6919E-05	1.0828E-05	1497.5	11.014	119.14	6.3591	28.074	1.4298	4541.9	1.1340E+07	4.9219E+07
x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
7	2.6917E-05	1.0828E-05	1497.5	11.014	119.14	6.3592	28.073	1.4299	4540.3	1.1340E+07	4.9219E+07
x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
8	2.6912E-05	1.0569E-05	1497.8	10.733	119.12	6.1679	28.071	1.3865	4370.7	1.1340E+07	4.9219E+07
x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
9	2.6911E-05	1.0569E-05	1497.7	10.733	119.12	6.1680	28.070	1.3866	4369.1	1.1340E+07	4.9219E+07
x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
10	2.6910E-05	1.0569E-05	1497.7	10.733	119.11	6.1680	28.069	1.3866	4367.6	1.1340E+07	4.9219E+07
x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
11	2.6909E-05	1.0569E-05	1497.7	10.733	119.11	6.1681	28.069	1.3866	4366.1	1.1340E+07	4.9219E+07
x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
12	2.6908E-05	1.0569E-05	1497.6	10.733	119.11	6.1682	28.068	1.3866	4364.6	1.1340E+07	4.9219E+07
x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
13	2.6906E-05	1.0569E-05	1497.6	10.733	119.11	6.1682	28.067	1.3866	4363.1	1.1340E+07	4.9219E+07
x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
14	2.6905E-05	1.0569E-05	1497.5	10.733	119.10	6.1683	28.067	1.3867	4361.6	1.1340E+07	4.9219E+07
x( M)	11.000	0.0000	0.0000	8.0000	9.0000	0.0000	11.500	8.0000	0.0000	0.0000	0.0000
15	2.8993E-05	1.0794E-05	3630.7	3.3514	188.54	2.8994	29.754	0.7433	2722.7	4.9219E+07	1.1340E+07
x( M)	15.500	0.0000	0.0000	6.5000	12.500	0.0000	16.000	4.5000	0.0000	0.0000	0.0000
16	2.8992E-05	1.0746E-05	3630.7	3.3361	188.54	2.8842	29.754	0.7395	2689.5	4.9219E+07	1.1340E+07
x( M)	15.500	0.0000	0.0000	6.5000	12.500	0.0000	16.000	4.5000	0.0000	0.0000	0.0000
17	2.8991E-05	1.0698E-05	3630.7	3.3207	188.53	2.8690	29.753	0.7358	2656.4	4.9219E+07	1.1340E+07
x( M)	15.500	0.0000	0.0000	6.5000	12.500	0.0000	16.000	4.5000	0.0000	0.0000	0.0000
18	2.8990E-05	1.0650E-05	3630.7	3.3054	188.53	2.8537	29.752	0.7320	2623.2	4.9219E+07	1.1340E+07
x( M)	15.500	0.0000	0.0000	6.5000	12.500	0.0000	16.000	4.5000	0.0000	0.0000	0.0000
19	2.8989E-05	1.0602E-05	3630.7	3.2901	188.52	2.8385	29.752	0.7282	2590.1	4.9219E+07	1.1340E+07
x( M)	15.500	0.0000	0.0000	6.5000	12.500	0.0000	16.000	4.5000	0.0000	0.0000	0.0000
20	2.9001E-05	1.0794E-05	3631.3	3.3513	188.58	2.8992	29.759	0.7432	2732.3	4.9219E+07	1.1340E+07
x( M)	15.500	0.0000	0.0000	6.5000	12.500	0.0000	16.000	4.5000	0.0000	0.0000	0.0000
21	2.9000E-05	1.0746E-05	3631.3	3.3359	188.57	2.8840	29.758	0.7395	2699.1	4.9219E+07	1.1340E+07
x( M)	15.500	0.0000	0.0000	6.5000	12.500	0.0000	16.000	4.5000	0.0000	0.0000	0.0000
22	2.8999E-05	1.0698E-05	3631.4	3.3206	188.57	2.8687	29.757	0.7357	2666.0		

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandataria

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	231 di 260

x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
26	2.6452E-05	3.2377E-06	5540.6	1.1542	624.15	0.7273	169.69	0.3534	4033.0	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
27	2.6451E-05	3.1897E-06	5540.6	1.1378	624.14	0.7067	169.69	0.3417	3988.4	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
28	2.6451E-05	3.1417E-06	5540.6	1.1214	624.14	0.6861	169.69	0.3299	3943.8	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
29	2.6450E-05	3.0937E-06	5540.7	1.1050	624.13	0.6656	169.68	0.3182	3899.2	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
30	2.6454E-05	3.2857E-06	5540.9	1.1706	624.20	0.7479	169.71	0.3652	4081.5	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
31	2.6453E-05	3.2377E-06	5540.9	1.1542	624.19	0.7273	169.70	0.3534	4037.0	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
32	2.6453E-05	3.1897E-06	5540.9	1.1378	624.18	0.7067	169.70	0.3417	3992.4	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
33	2.6452E-05	3.1417E-06	5540.9	1.1214	624.18	0.6861	169.70	0.3299	3947.8	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
34	2.6452E-05	3.0937E-06	5541.0	1.1050	624.17	0.6655	169.70	0.3182	3903.2	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	5.4000	10.080	0.0000	11.880	7.2000	0.0000	0.0000	0.0000
Max.	2.9001E-05	1.0828E-05	5541.0	11.014	624.20	6.3592	169.71	1.4299	4549.5	4.9219E+07	4.9219E+07
Pile N.	20	1	34	4	30	7	30	7	1	15	1

LOAD CASE : 22  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
38265.0	-66445.6	123.441
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
99.6108	1465.23	-2.30459E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
3.47500E-04	-6.17582E-03	1.53808E-05
ANGLE ROT. X, RAD	ANGLE ROT. Y, RAD	ANGLE ROT. Z, RAD
1.37836E-07	5.92174E-07	1.39285E-04

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
*****	*****	*****	*****	*****	*****	*****
1	-6.4364E-04	-6.1769E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
2	-6.4525E-04	-6.1766E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
3	-6.4682E-04	-6.1762E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
4	-6.4839E-04	-6.1758E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
5	-6.4996E-04	-6.1755E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
6	-6.5153E-04	-6.1751E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
7	-6.5314E-04	-6.1747E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
8	1.3481E-03	-6.1769E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
9	1.3465E-03	-6.1766E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
10	1.3450E-03	-6.1762E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
11	1.3434E-03	-6.1758E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
12	1.3418E-03	-6.1755E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
13	1.3403E-03	-6.1751E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
14	1.3386E-03	-6.1747E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
15	-3.9589E-04	-6.1746E-03	1.6111E-05	1.3784E-07	5.9217E-07	1.3929E-04
16	-2.6787E-05	-6.1746E-03	1.5746E-05	1.3784E-07	5.9217E-07	1.3929E-04
17	3.4232E-04	-6.1746E-03	1.5381E-05	1.3784E-07	5.9217E-07	1.3929E-04
18	7.1142E-04	-6.1746E-03	1.5016E-05	1.3784E-07	5.9217E-07	1.3929E-04
19	1.0805E-03	-6.1746E-03	1.4650E-05	1.3784E-07	5.9217E-07	1.3929E-04
20	-3.8553E-04	-6.1770E-03	1.6111E-05	1.3784E-07	5.9217E-07	1.3929E-04
21	-1.6424E-05	-6.1770E-03	1.5746E-05	1.3784E-07	5.9217E-07	1.3929E-04
22	3.5268E-04	-6.1770E-03	1.5381E-05	1.3784E-07	5.9217E-07	1.3929E-04
23	7.2179E-04	-6.1770E-03	1.5016E-05	1.3784E-07	5.9217E-07	1.3929E-04
24	1.0909E-03	-6.1770E-03	1.4650E-05	1.3784E-07	5.9217E-07	1.3929E-04
25	-3.9228E-04	-4.2255E-03	7.8208E-06	1.3784E-07	5.9217E-07	1.3929E-04
26	-2.3175E-05	-4.2255E-03	7.4556E-06	1.3784E-07	5.9217E-07	1.3929E-04
27	3.4593E-04	-4.2255E-03	7.0903E-06	1.3784E-07	5.9217E-07	1.3929E-04

## APPALTATORE:

Consorzio

Soci



## ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

## PROGETTAZIONE:

Mandataria

Mandanti



## PROGETTO ESECUTIVO

## RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA  
IF1NLOTTO  
01 E ZZCODIFICA  
RGDOCUMENTO  
MD0000 001REV.  
BFOGLIO  
232 di  
260

28	7.1504E-04	-4.2255E-03	6.7251E-06	1.3784E-07	5.9217E-07	1.3929E-04
29	1.0841E-03	-4.2255E-03	6.3598E-06	1.3784E-07	5.9217E-07	1.3929E-04
30	-3.8914E-04	-4.2262E-03	7.8208E-06	1.3784E-07	5.9217E-07	1.3929E-04
31	-2.0036E-05	-4.2262E-03	7.4556E-06	1.3784E-07	5.9217E-07	1.3929E-04
32	3.4907E-04	-4.2262E-03	7.0903E-06	1.3784E-07	5.9217E-07	1.3929E-04
33	7.1818E-04	-4.2262E-03	6.7251E-06	1.3784E-07	5.9217E-07	1.3929E-04
34	1.0873E-03	-4.2262E-03	6.3598E-06	1.3784E-07	5.9217E-07	1.3929E-04
MINIMUM	-6.5314E-04	-6.1770E-03	6.3598E-06	1.3784E-07	5.9217E-07	1.3929E-04
Pile N.	7	20	29	1	1	1
MAXIMUM	1.3481E-03	-4.2255E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
Pile N.	8	25	1	1	1	1

## \* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
1	-1882.0	-1242.6	6.1359	0.1120	-26.423	-4359.6
2	-1886.8	-1242.6	6.1360	0.1120	-26.424	-4359.4
3	-1891.3	-1242.5	6.1362	0.1120	-26.424	-4359.1
4	-1895.9	-1242.5	6.1363	0.1120	-26.425	-4358.9
5	-1900.5	-1242.4	6.1365	0.1120	-26.425	-4358.6
6	-1905.1	-1242.4	6.1366	0.1120	-26.425	-4358.4
7	-1909.8	-1242.3	6.1368	0.1120	-26.426	-4358.2
8	3957.9	-1239.0	5.2369	0.1120	-22.111	-4360.0
9	3953.1	-1238.9	5.2370	0.1120	-22.112	-4359.8
10	3948.5	-1238.9	5.2372	0.1120	-22.112	-4359.6
11	3943.9	-1238.8	5.2373	0.1120	-22.113	-4359.3
12	3939.3	-1238.7	5.2374	0.1120	-22.113	-4359.1
13	3934.7	-1238.7	5.2375	0.1120	-22.113	-4358.8
14	3930.0	-1238.6	5.2377	0.1120	-22.114	-4358.6
15	-1157.6	-2115.7	2.8068	0.1120	-9.4847	-9681.5
16	-78.327	-2115.2	2.7314	0.1120	-9.2105	-9681.7
17	1005.0	-2114.7	2.6561	0.1120	-8.9364	-9681.9
18	2088.6	-2114.2	2.5808	0.1120	-8.6622	-9682.1
19	3172.2	-2113.8	2.5057	0.1120	-8.3881	-9682.3
20	-1127.3	-2116.3	2.8064	0.1120	-9.4838	-9685.1
21	-48.025	-2115.8	2.7310	0.1120	-9.2096	-9685.3
22	1035.4	-2115.3	2.6557	0.1120	-8.9355	-9685.5
23	2119.0	-2114.9	2.5804	0.1120	-8.6614	-9685.7
24	3202.7	-2114.4	2.5053	0.1120	-8.3873	-9685.9
25	-1536.6	-2793.7	1.9724	0.073736	-5.1516	-1.0822E+04
26	-90.779	-2793.1	1.8494	0.073736	-4.7614	-1.0822E+04
27	1366.8	-2792.4	1.7265	0.073736	-4.3712	-1.0822E+04
28	2825.1	-2791.8	1.6037	0.073736	-3.9811	-1.0821E+04
29	4263.9	-2791.1	1.4811	0.073736	-3.5911	-1.0821E+04
30	-1524.3	-2794.2	1.9723	0.073736	-5.1514	-1.0824E+04
31	-78.485	-2793.5	1.8493	0.073736	-4.7612	-1.0824E+04
32	1379.2	-2792.9	1.7264	0.073736	-4.3711	-1.0824E+04
33	2837.5	-2792.2	1.6036	0.073736	-3.9810	-1.0824E+04
34	4275.2	-2791.6	1.4810	0.073736	-3.5910	-1.0823E+04
MINIMUM	-1909.8	-2794.2	1.4810	0.073736	-26.426	-1.0824E+04
Pile N.	7	30	34	25	7	30
MAXIMUM	4275.2	-1238.6	6.1368	0.1120	-3.5910	-4358.2
Pile N.	34	14	7	1	34	7

## THE PILE COORDINATE SYSTEM (LOCAL AXES)

## \* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
1	-6.4364E-04	-6.1769E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
2	-6.4525E-04	-6.1766E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
3	-6.4682E-04	-6.1762E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
4	-6.4839E-04	-6.1758E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
5	-6.4996E-04	-6.1755E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
6	-6.5153E-04	-6.1751E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
7	-6.5314E-04	-6.1747E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
8	1.3481E-03	-6.1769E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
9	1.3465E-03	-6.1766E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
10	1.3450E-03	-6.1762E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
11	1.3434E-03	-6.1758E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
12	1.3418E-03	-6.1755E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
13	1.3403E-03	-6.1751E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
14	1.3386E-03	-6.1747E-03	1.4395E-05	1.3784E-07	5.9217E-07	1.3929E-04
15	-3.9589E-04	-6.1746E-03	1.6111E-05	1.3784E-07	5.9217E-07	1.3929E-04
16	-2.6787E-05	-6.1746E-03	1.5746E-05	1.3784E-07	5.9217E-07	1.3929E-04
17	3.4232E-04	-6.1746E-03	1.5381E-05	1.3784E-07	5.9217E-07	1.3929E-04
18	7.1142E-04	-6.1746E-03	1.5016E-05	1.3784E-07	5.9217E-07	1.3929E-04
19	1.0805E-03	-6.1746E-03	1.4650E-05	1.3784E-07	5.9217E-07	1.3929E-04
20	-3.8553E-04	-6.1770E-03	1.6111E-05	1.3784E-07	5.9217E-07	1.3929E-04
21	-1.6424E-05	-6.1770E-03	1.5746E-05	1.3784E-07	5.9217E-07	1.3929E-04
22	3.5268E-04	-6.1770E-03	1.5381E-05	1.3784E-07	5.9217E-07	1.3929E-04
23	7.2179E-04	-6.1770E-03	1.5016E-05	1.3784E-07	5.9217E-07	1.3929E-04



APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandatario

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 233 di 260
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24	1.0909E-03	-6.1770E-03	1.4650E-05	1.3784E-07	5.9217E-07	1.3929E-04
25	-3.9228E-04	-4.2255E-03	7.8208E-06	1.3784E-07	5.9217E-07	1.3929E-04
26	-2.3175E-05	-4.2255E-03	7.4556E-06	1.3784E-07	5.9217E-07	1.3929E-04
27	3.4593E-04	-4.2255E-03	7.0903E-06	1.3784E-07	5.9217E-07	1.3929E-04
28	7.1504E-04	-4.2255E-03	6.7251E-06	1.3784E-07	5.9217E-07	1.3929E-04
29	1.0841E-03	-4.2255E-03	6.3598E-06	1.3784E-07	5.9217E-07	1.3929E-04
30	-3.8914E-04	-4.2262E-03	7.8208E-06	1.3784E-07	5.9217E-07	1.3929E-04
31	-2.0036E-05	-4.2262E-03	7.4556E-06	1.3784E-07	5.9217E-07	1.3929E-04
32	3.4907E-04	-4.2262E-03	7.0903E-06	1.3784E-07	5.9217E-07	1.3929E-04
33	7.1818E-04	-4.2262E-03	6.7251E-06	1.3784E-07	5.9217E-07	1.3929E-04
34	1.0873E-03	-4.2262E-03	6.3598E-06	1.3784E-07	5.9217E-07	1.3929E-04
MINIMUM	-6.5314E-04	-6.1770E-03	6.3598E-06	1.3784E-07	5.9217E-07	1.3929E-04
Pile N.	7	20	29	1	1	1
MAXIMUM	1.3481E-03	-4.2255E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
1	-1882.0	-1242.6	6.1359	0.1120	-26.423	-4359.6
2	-1886.8	-1242.6	6.1360	0.1120	-26.424	-4359.4
3	-1891.3	-1242.5	6.1362	0.1120	-26.424	-4359.1
4	-1895.9	-1242.5	6.1363	0.1120	-26.425	-4358.9
5	-1900.5	-1242.4	6.1365	0.1120	-26.425	-4358.6
6	-1905.1	-1242.4	6.1366	0.1120	-26.425	-4358.4
7	-1909.8	-1242.3	6.1368	0.1120	-26.426	-4358.2
8	3957.9	-1239.0	5.2369	0.1120	-22.111	-4360.0
9	3953.1	-1238.9	5.2370	0.1120	-22.112	-4359.8
10	3948.5	-1238.9	5.2372	0.1120	-22.112	-4359.6
11	3943.9	-1238.8	5.2373	0.1120	-22.113	-4359.3
12	3939.3	-1238.7	5.2374	0.1120	-22.113	-4359.1
13	3934.7	-1238.7	5.2375	0.1120	-22.113	-4358.8
14	3930.0	-1238.6	5.2377	0.1120	-22.114	-4358.6
15	-1157.6	-2115.7	2.8068	0.1120	-9.4847	-9681.5
16	-78.327	-2115.2	2.7314	0.1120	-9.2105	-9681.7
17	1005.0	-2114.7	2.6561	0.1120	-8.9364	-9681.9
18	2088.6	-2114.2	2.5808	0.1120	-8.6622	-9682.1
19	3172.2	-2113.8	2.5057	0.1120	-8.3881	-9682.3
20	-1127.3	-2116.3	2.8064	0.1120	-9.4838	-9685.1
21	-48.025	-2115.8	2.7310	0.1120	-9.2096	-9685.3
22	1035.4	-2115.3	2.6557	0.1120	-8.9355	-9685.5
23	2119.0	-2114.9	2.5804	0.1120	-8.6614	-9685.7
24	3202.7	-2114.4	2.5053	0.1120	-8.3873	-9685.9
25	-1536.6	-2793.7	1.9724	0.073736	-5.1516	-1.0822E+04
26	-90.779	-2793.1	1.8494	0.073736	-4.7614	-1.0822E+04
27	1366.8	-2792.4	1.7265	0.073736	-4.3712	-1.0822E+04
28	2825.1	-2791.8	1.6037	0.073736	-3.9811	-1.0821E+04
29	4263.9	-2791.1	1.4811	0.073736	-3.5911	-1.0821E+04
30	-1524.3	-2794.2	1.9723	0.073736	-5.1514	-1.0824E+04
31	-78.485	-2793.5	1.8493	0.073736	-4.7612	-1.0824E+04
32	1379.2	-2792.9	1.7264	0.073736	-4.3711	-1.0824E+04
33	2837.5	-2792.2	1.6036	0.073736	-3.9810	-1.0824E+04
34	4275.2	-2791.6	1.4810	0.073736	-3.5910	-1.0823E+04
MINIMUM	-1909.8	-2794.2	1.4810	0.073736	-26.426	-1.0824E+04
Pile N.	7	30	34	25	7	30
MAXIMUM	4275.2	-1238.6	6.1368	0.1120	-3.5910	-4358.2
Pile N.	34	14	7	1	34	7

PILE GROUP STRESS, KN/ M\*\*2

PILE GROUP	STRESS, KN/ M**2
1	1.2461E+04
2	1.2462E+04
3	1.2463E+04
4	1.2464E+04
5	1.2465E+04
6	1.2466E+04
7	1.2467E+04
8	1.3154E+04
9	1.3152E+04
10	1.3150E+04
11	1.3148E+04
12	1.3146E+04
13	1.3143E+04
14	1.3141E+04
15	6440.8
16	6081.2
17	6390.2
18	6751.5
19	7112.8
20	6433.0
21	6073.3
22	6402.6
23	6763.9
24	7125.2
25	7280.2

<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  		<b>RADDOPPIO TRATTA APICE – ORSARA I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 234 di 260

26 6798.2  
 27 7223.5  
 28 7709.5  
 29 8189.1  
 30 7277.4  
 31 6795.4  
 32 7228.9  
 33 7715.0  
 34 8194.1

MINIMUM 6073.3  
 Pile N. 21  
 MAXIMUM 1.3154E+04  
 Pile N. 8

\* EFFECTS FOR LATERALLY LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL.		MOMENT		SHEAR		SOIL REACT		TOTAL	FLEX. RIG.	
	y-Dir M	z-Dir M	z-Dir KN- M	y-Dir KN- M	y-Dir KN	z-Dir KN	y-Dir KN/ M	z-Dir KN/ M	STRESS KN/ M**2	z-Dir KN- M**2	y-Dir KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	-6.1769E-03	-3.0835E-07	-1578.2	-26.423	-1242.4	-1.8685	-268.59	-0.4419	627.35	1.1340E+07	4.9219E+07
x(M)	0.0000	16.000	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
2	-6.1766E-03	-3.0836E-07	-1578.2	-26.424	-1242.4	-1.8685	-268.58	-0.4419	628.92	1.1340E+07	4.9219E+07
x(M)	0.0000	16.000	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
3	-6.1762E-03	-3.0837E-07	-1578.1	-26.424	-1242.3	-1.8686	-268.57	-0.4419	630.45	1.1340E+07	4.9219E+07
x(M)	0.0000	16.000	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
4	-6.1758E-03	-3.0837E-07	-1578.0	-26.425	-1242.3	-1.8686	-268.56	-0.4419	631.98	1.1340E+07	4.9219E+07
x(M)	0.0000	16.000	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
5	-6.1755E-03	-3.0838E-07	-1578.0	-26.425	-1242.2	-1.8687	-268.55	-0.4419	633.51	1.1340E+07	4.9219E+07
x(M)	0.0000	16.000	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
6	-6.1751E-03	-3.0838E-07	-1577.9	-26.425	-1242.2	-1.8688	-268.54	-0.4419	635.04	1.1340E+07	4.9219E+07
x(M)	0.0000	16.000	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
7	-6.1747E-03	-3.0839E-07	-1577.8	-26.426	-1242.1	-1.8688	-268.53	-0.4419	636.61	1.1340E+07	4.9219E+07
x(M)	0.0000	16.000	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
8	-6.1769E-03	-2.7241E-07	-1581.0	-22.111	-1239.3	-1.6341	-268.46	-0.3842	1319.3	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
9	-6.1766E-03	-2.7242E-07	-1580.9	-22.112	-1239.3	-1.6342	-268.45	-0.3842	1317.7	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
10	-6.1762E-03	-2.7243E-07	-1580.8	-22.112	-1239.2	-1.6342	-268.44	-0.3842	1316.2	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
11	-6.1758E-03	-2.7244E-07	-1580.8	-22.113	-1239.2	-1.6343	-268.43	-0.3842	1314.6	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
12	-6.1755E-03	-2.7245E-07	-1580.7	-22.113	-1239.1	-1.6343	-268.42	-0.3842	1313.1	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
13	-6.1751E-03	-2.7246E-07	-1580.6	-22.113	-1239.1	-1.6344	-268.41	-0.3842	1311.6	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
14	-6.1747E-03	-2.7247E-07	-1580.5	-22.114	-1239.0	-1.6345	-268.40	-0.3841	1310.0	1.1340E+07	4.9219E+07
x(M)	0.0000	15.500	7.5000	0.0000	0.0000	13.000	5.5000	18.500	50.000	0.0000	0.0000
15	-6.1746E-03	-1.9561E-07	-3441.8	-9.4847	-2115.6	-0.6031	-326.65	-0.3483	385.87	4.9219E+07	1.1340E+07
x(M)	0.0000	14.000	10.500	0.0000	0.0000	12.000	5.5000	15.000	50.000	0.0000	0.0000
16	-6.1746E-03	-1.9162E-07	-3442.4	-9.2105	-2115.2	-0.5893	-326.65	-0.3403	26.109	4.9219E+07	1.1340E+07
x(M)	0.0000	14.000	10.500	0.0000	0.0000	12.000	5.5000	15.000	50.000	0.0000	0.0000
17	-6.1746E-03	-1.8761E-07	-3442.9	-8.9364	-2114.8	-0.5755	-326.64	-0.3323	334.99	4.9219E+07	1.1340E+07
x(M)	0.0000	14.000	10.500	0.0000	0.0000	12.000	5.5000	15.000	50.000	0.0000	0.0000
18	-6.1746E-03	-1.8358E-07	-3443.5	-8.6622	-2114.3	-0.5617	-326.64	-0.3243	696.20	4.9219E+07	1.1340E+07
x(M)	0.0000	14.000	10.500	0.0000	0.0000	12.000	5.5000	15.000	50.000	0.0000	0.0000
19	-6.1746E-03	-1.7954E-07	-3444.0	-8.3881	-2113.9	-0.5478	-326.63	-0.3163	1057.4	4.9219E+07	1.1340E+07
x(M)	0.0000	14.000	10.500	0.0000	0.0000	12.000	5.5000	15.000	50.000	0.0000	0.0000
20	-6.1770E-03	-1.9560E-07	-3442.9	-9.4838	-2116.2	-0.6030	-326.73	-0.3483	375.77	4.9219E+07	1.1340E+07
x(M)	0.0000	14.000	10.500	0.0000	0.0000	12.000	5.5000	15.000	50.000	0.0000	0.0000
21	-6.1770E-03	-1.9161E-07	-3443.4	-9.2096	-2115.8	-0.5893	-326.72	-0.3403	16.008	4.9219E+07	1.1340E+07
x(M)	0.0000	14.000	10.500	0.0000	0.0000	12.000	5.5000	15.000	50.000	0.0000	0.0000
22	-6.1770E-03	-1.8760E-07	-3444.0	-8.9355	-2115.4	-0.5755	-326.72	-0.3323	345.14	4.9219E+07	1.1340E+07
x(M)	0.0000	14.000	10.500	0.0000	0.0000	12.000	5.5000	15.000	50.000	0.0000	0.0000
23	-6.1770E-03	-1.8358E-07	-3444.5	-8.6614	-2115.0	-0.5616	-326.71	-0.3243	706.34	4.9219E+07	1.1340E+07
x(M)	0.0000	14.000	10.500	0.0000	0.0000	12.000	5.5000	15.000	50.000	0.0000	0.0000
24	-6.1770E-03	-1.7954E-07	-3445.0	-8.3873	-2114.5	-0.5478	-326.71	-0.3163	1067.6	4.9219E+07	1.1340E+07
x(M)	0.0000	14.000	10.500	0.0000	0.0000	12.000	5.5000	15.000	50.000	0.0000	0.0000
25	-4.2255E-03	-6.8549E-08	-5865.5	-5.1516	-2793.7	-1.0136	-1588.8	-0.3865	512.20	4.9219E+07	1.1340E+07
x(M)	0.0000	10.440	8.2800	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
26	-4.2255E-03	-6.4789E-08	-5865.8	-4.7614	-2793.1	-0.9581	-1588.8	-0.3653	30.260	4.9219E+07	1.1340E+07
x(M)	0.0000	10.440	8.2800	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
27	-4.2255E-03	-6.1027E-08	-5866.1	-4.3712	-2792.5	-0.9027	-1588.7	-0.3441	455.59	4.9219E+07	1.1340E+07
x(M)	0.0000	10.440	8.2800	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
28	-4.2255E-03	-5.7261E-08	-5866.4	-3.9811	-2791.9	-0.8472	-1588.6	-0.3228	941.70	4.9219E+07	1.1340E+07
x(M)	0.0000	10.440	8.2800	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
29	-4.2255E-03	-5.3492E-08	-5866.7	-3.5911	-2791.3	-0.7916	-1588.6	-0.3016	1421.3	4.9219E+07	1.1340E+07
x(M)	0.0000	10.440	8.2800	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
30	-4.2262E-03	-6.8547E-08	-5866.5	-5.1514	-2794.1	-1.0135	-1589.0	-0.3864	508.11	4.9219E+07	1.1340E+07
x(M)	0.0000	10.440	8.2800	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
31	-4.2262E-03	-6.4788E-08	-5866.8	-4.7612	-2793.5	-0.9581	-1589.0	-0.3653	26.162	4.9219E+07	1.1340E+07
x(M)	0.0000	10.440	8.2800	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
32	-4.2262E-03	-6.1025E-08	-5867.1	-4.3711	-2792.9	-0.9027	-1588.9	-0.3440	459.73	4.9219E+07	1.1340E+07
x(M)	0.0000	10.440	8.2800	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
33	-4.2262E-03	-5.7260E-08	-5867.4	-3.9810	-2792.3	-0.8471	-1588.8	-0.3228	945.84	4.9219E+07	1.1340E+07

APPALTATORE: Consorzio  Soci  				<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
PROGETTAZIONE: Mandataria  Mandanti  									
PROGETTO ESECUTIVO <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>				COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>	CODIFICA <b>RG</b>	DOCUMENTO <b>MD0000 001</b>	REV. <b>B</b>	FOGLIO <b>235 di 260</b>

x( M)	0.0000	10.440	8.2800	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
34	-4.2262E-03	-5.3491E-08	-5867.7	-3.5910	-2791.7	-0.7916	-1588.8	-0.3016	1425.1	4.9219E+07	1.1340E+07
x( M)	0.0000	10.440	8.2800	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
Min. Pile N.	-6.1770E-03	-3.0839E-07	-5867.7	-26.426	-2794.1	-1.8688	-1589.0	-0.4419	16.008	1.1340E+07	1.1340E+07
	20	7	34	7	30	6	30	1	21	1	15

\* MAXIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-Dir M	DISPL. z-Dir M	MOMENT z-Dir KN- M	MOMENT y-Dir KN- M	SHEAR y-Dir KN	SHEAR z-Dir KN	SOIL REACT y-Dir KN/ M	SOIL REACT z-Dir KN/ M	TOTAL STRESS KN/ M**2	FLEX. RIG. z-Dir KN- M**2	FLEX. RIG. y-Dir KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	1.2033E-04	1.6366E-05	4359.6	11.994	315.32	6.1356	59.273	1.4967	1.2461E+04	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	10.500	0.0000	0.0000	0.0000
2	1.2032E-04	1.6366E-05	4359.4	11.995	315.30	6.1358	59.271	1.4969	1.2462E+04	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	10.500	0.0000	0.0000	0.0000
3	1.2032E-04	1.6366E-05	4359.1	11.995	315.29	6.1359	59.269	1.4972	1.2463E+04	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	10.500	0.0000	0.0000	0.0000
4	1.2031E-04	1.6366E-05	4358.9	11.995	315.28	6.1361	59.267	1.4974	1.2464E+04	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	10.500	0.0000	0.0000	0.0000
5	1.2030E-04	1.6366E-05	4358.6	11.995	315.26	6.1362	59.266	1.4977	1.2465E+04	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	10.500	0.0000	0.0000	0.0000
6	1.2030E-04	1.6366E-05	4358.4	11.996	315.25	6.1363	59.264	1.4979	1.2466E+04	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	10.500	0.0000	0.0000	0.0000
7	1.2029E-04	1.6366E-05	4358.2	11.996	315.24	6.1365	59.262	1.4982	1.2467E+04	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	10.500	0.0000	0.0000	0.0000
8	1.2138E-04	1.4395E-05	4360.0	10.465	316.83	5.2373	59.537	1.3092	1.3154E+04	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	10.500	0.0000	0.0000	0.0000
9	1.2137E-04	1.4395E-05	4359.8	10.465	316.82	5.2375	59.535	1.3094	1.3152E+04	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	10.500	0.0000	0.0000	0.0000
10	1.2136E-04	1.4395E-05	4359.6	10.465	316.81	5.2376	59.533	1.3096	1.3150E+04	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	10.500	0.0000	0.0000	0.0000
11	1.2136E-04	1.4395E-05	4359.3	10.466	316.79	5.2377	59.531	1.3099	1.3148E+04	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	10.500	0.0000	0.0000	0.0000
12	1.2135E-04	1.4395E-05	4359.1	10.466	316.78	5.2379	59.529	1.3101	1.3146E+04	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	10.500	0.0000	0.0000	0.0000
13	1.2134E-04	1.4395E-05	4358.8	10.466	316.77	5.2380	59.527	1.3103	1.3143E+04	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	10.500	0.0000	0.0000	0.0000
14	1.2133E-04	1.4395E-05	4358.6	10.466	316.75	5.2381	59.525	1.3106	1.3141E+04	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	10.500	0.0000	0.0000	0.0000
15	7.8145E-05	1.6111E-05	9681.5	3.5424	490.72	2.8066	247.31	0.6100	6440.8	4.9219E+07	1.1340E+07
x( M)	18.000	0.0000	0.0000	7.5000	15.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
16	7.8207E-05	1.5746E-05	9681.7	3.4623	490.85	2.7314	247.34	0.5947	6081.2	4.9219E+07	1.1340E+07
x( M)	18.000	0.0000	0.0000	7.5000	15.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
17	7.8270E-05	1.5381E-05	9681.9	3.3822	490.99	2.6563	247.38	0.5793	6390.2	4.9219E+07	1.1340E+07
x( M)	18.000	0.0000	0.0000	7.5000	15.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
18	7.8332E-05	1.5015E-05	9682.1	3.3020	491.12	2.5812	247.42	0.5640	6751.5	4.9219E+07	1.1340E+07
x( M)	18.000	0.0000	0.0000	7.5000	15.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
19	7.8395E-05	1.4650E-05	9682.3	3.2218	491.26	2.5063	247.46	0.5486	7112.8	4.9219E+07	1.1340E+07
x( M)	18.000	0.0000	0.0000	7.5000	15.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
20	7.8161E-05	1.6111E-05	9685.1	3.5421	490.89	2.8062	247.37	0.6099	6433.0	4.9219E+07	1.1340E+07
x( M)	18.000	0.0000	0.0000	7.5000	15.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
21	7.8223E-05	1.5746E-05	9685.3	3.4620	491.02	2.7310	247.41	0.5946	6073.3	4.9219E+07	1.1340E+07
x( M)	18.000	0.0000	0.0000	7.5000	15.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
22	7.8286E-05	1.5381E-05	9685.5	3.3819	491.16	2.6559	247.45	0.5792	6402.6	4.9219E+07	1.1340E+07
x( M)	18.000	0.0000	0.0000	7.5000	15.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
23	7.8348E-05	1.5015E-05	9685.7	3.3017	491.29	2.5808	247.49	0.5639	6763.9	4.9219E+07	1.1340E+07
x( M)	18.000	0.0000	0.0000	7.5000	15.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
24	7.8411E-05	1.4650E-05	9685.9	3.2215	491.42	2.5059	247.53	0.5485	7125.2	4.9219E+07	1.1340E+07
x( M)	18.000	0.0000	0.0000	7.5000	15.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
25	6.2499E-05	7.8208E-06	1.0822E+04	3.0077	1510.4	1.9723	413.09	1.2239	7280.2	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
26	6.2510E-05	7.4556E-06	1.0822E+04	2.8442	1510.6	1.8494	413.17	1.1478	6798.2	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
27	6.2521E-05	7.0903E-06	1.0822E+04	2.6806	1510.9	1.7266	413.24	1.0717	7223.5	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
28	6.2533E-05	6.7251E-06	1.0821E+04	2.5171	1511.1	1.6039	413.32	0.9956	7709.5	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
29	6.2544E-05	6.3598E-06	1.0821E+04	2.3534	1511.3	1.4814	413.39	0.9196	8189.1	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
30	6.2508E-05	7.8208E-06	1.0824E+04	3.0076	1510.7	1.9722	413.16	1.2238	7277.4	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
31	6.2520E-05	7.4556E-06	1.0824E+04	2.8441	1510.9	1.8493	413.23	1.1477	6795.4	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
32	6.2531E-05	7.0903E-06	1.0824E+04	2.6806	1511.1	1.7265	413.30	1.0716	7228.9	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
33	6.2542E-05	6.7251E-06	1.0824E+04	2.5170	1511.3	1.6038	413.38	0.9955	7715.0	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
34	6.2553E-05	6.3598E-06	1.0823E+04	2.3534	1511.6	1.4813	413.45	0.9195	8194.1	4.9219E+07	1.1340E+07
x( M)	12.240	0.0000	0.0000	7.2000	10.440	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
Max. Pile N.	1.2138E-04	1.6366E-05	1.0824E+04	11.996	1511.6	6.1365	413.45	1.4982	1.3154E+04	4.9219E+07	4.9219E+07
	8	1	30	6	34	7	34	7	8	15	1

<b>APPALTATORE:</b> Consorzio <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   	
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	

CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN 43795.5	HOR. LOAD Y, KN -45761.0	HOR. LOAD Z, KN -21374.3
MOMENT X, KN- M -17796.4	MOMENT Y, KN- M -85202.2	MOMENT Z, KN- M -3.00728E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M 3.98045E-04	HORIZONTAL Y, M -3.45435E-03	HORIZONTAL Z, M -2.18211E-03
ANGLE ROT. X, RAD -2.30443E-05	ANGLE ROT. Y, RAD -6.08371E-05	ANGLE ROT. Z, RAD 5.44659E-05

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
*****	*****	*****	*****	*****	*****	*****
1	-4.7930E-04	-3.2695E-03	-2.3469E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
2	-3.1382E-04	-3.3322E-03	-2.3469E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
3	-1.5260E-04	-3.3933E-03	-2.3469E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
4	8.6138E-06	-3.4544E-03	-2.3469E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
5	1.6983E-04	-3.5154E-03	-2.3469E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
6	3.3105E-04	-3.5765E-03	-2.3469E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
7	4.9653E-04	-3.6392E-03	-2.3469E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
8	2.9956E-04	-3.2695E-03	-2.0173E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
9	4.6504E-04	-3.3322E-03	-2.0173E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
10	6.2626E-04	-3.3933E-03	-2.0173E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
11	7.8748E-04	-3.4544E-03	-2.0173E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
12	9.4869E-04	-3.5154E-03	-2.0173E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
13	1.1099E-03	-3.5765E-03	-2.0173E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
14	1.2754E-03	-3.6392E-03	-2.0173E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
15	6.4170E-04	-3.6560E-03	-2.3042E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
16	7.8604E-04	-3.6560E-03	-2.2432E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
17	9.3037E-04	-3.6560E-03	-2.1821E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
18	1.0747E-03	-3.6560E-03	-2.1210E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
19	1.2190E-03	-3.6560E-03	-2.0600E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
20	-4.2295E-04	-3.2527E-03	-2.3042E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
21	-2.7861E-04	-3.2527E-03	-2.2432E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
22	-1.3428E-04	-3.2527E-03	-2.1821E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
23	1.0055E-05	-3.2527E-03	-2.1210E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
24	1.5439E-04	-3.2527E-03	-2.0600E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
25	2.7059E-04	-2.7529E-03	-1.4525E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
26	4.1493E-04	-2.7529E-03	-1.3915E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
27	5.5926E-04	-2.7529E-03	-1.3304E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
28	7.0360E-04	-2.7529E-03	-1.2693E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
29	8.4793E-04	-2.7529E-03	-1.2083E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
30	-5.1843E-05	-2.6308E-03	-1.4525E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
31	9.2492E-05	-2.6308E-03	-1.3915E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
32	2.3683E-04	-2.6308E-03	-1.3304E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
33	3.8116E-04	-2.6308E-03	-1.2693E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
34	5.2550E-04	-2.6308E-03	-1.2083E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
MINIMUM	-4.7930E-04	-3.6560E-03	-2.3469E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
Pile N.	1	15	1	1	1	1
MAXIMUM	1.2754E-03	-2.6308E-03	-1.2083E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
Pile N.	14	30	29	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	-1401.5	-740.14	-979.50	-18.721	4223.7	-2529.6
2	-917.64	-752.56	-976.48	-18.721	4215.6	-2577.7
3	-446.23	-764.58	-973.56	-18.721	4207.7	-2624.3
4	25.289	-776.50	-970.65	-18.721	4199.8	-2670.7
5	498.59	-788.35	-967.75	-18.721	4192.0	-2716.9
6	971.90	-800.12	-964.86	-18.721	4184.1	-2763.0
7	1457.7	-812.11	-961.91	-18.721	4176.1	-2810.1
8	879.46	-755.10	-845.80	-18.721	3574.7	-2570.7
9	1365.3	-767.46	-842.82	-18.721	3566.6	-2618.7

<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>							COMMESSA <b>IF1N</b>

10	1838.6	-779.41	-839.94	-18.721	3558.7	-2665.3
11	2311.9	-791.26	-837.07	-18.721	3550.9	-2711.6
12	2785.2	-803.03	-834.22	-18.721	3543.1	-2757.8
13	3258.5	-814.71	-831.38	-18.721	3535.4	-2803.8
14	3744.3	-826.61	-828.50	-18.721	3527.5	-2850.8
15	1883.9	-1499.9	-475.62	-18.721	1603.5	-6805.0
16	2307.6	-1502.0	-462.39	-18.721	1555.2	-6811.0
17	2731.4	-1504.0	-449.11	-18.721	1506.7	-6816.9
18	3155.1	-1505.9	-435.78	-18.721	1458.2	-6822.7
19	3578.9	-1507.9	-422.40	-18.721	1409.5	-6828.4
20	-1236.7	-1366.6	-490.78	-18.721	1638.6	-6105.9
21	-814.69	-1368.8	-477.30	-18.721	1589.7	-6112.3
22	-392.64	-1371.0	-463.75	-18.721	1540.6	-6118.7
23	29.520	-1373.2	-450.14	-18.721	1491.3	-6124.9
24	453.26	-1375.3	-436.47	-18.721	1441.9	-6131.1
25	1069.1	-2078.4	-456.01	-12.328	1292.9	-8132.7
26	1639.4	-2080.5	-434.69	-12.328	1225.6	-8137.0
27	2209.7	-2082.6	-413.28	-12.328	1158.2	-8141.1
28	2779.9	-2084.6	-391.78	-12.328	1090.7	-8145.1
29	3350.2	-2086.5	-370.19	-12.328	1023.0	-8148.9
30	-203.07	-1996.1	-461.19	-12.328	1302.1	-7766.5
31	365.44	-1998.3	-439.71	-12.328	1234.5	-7770.9
32	935.70	-2000.4	-418.14	-12.328	1166.8	-7775.2
33	1506.0	-2002.5	-396.46	-12.328	1098.9	-7779.4
34	2076.2	-2004.5	-374.70	-12.328	1030.8	-7783.4
MINIMUM	-1401.5	-2086.5	-979.50	-18.721	1023.0	-8148.9
Pile N.	1	29	1	1	29	29
MAXIMUM	3744.3	-740.14	-370.19	-12.328	4223.7	-2529.6
Pile N.	14	1	29	25	1	1






THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
1	-4.7930E-04	-3.2695E-03	-2.3469E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
2	-3.1382E-04	-3.3322E-03	-2.3469E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
3	-1.5260E-04	-3.3933E-03	-2.3469E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
4	8.6138E-06	-3.4544E-03	-2.3469E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
5	1.6983E-04	-3.5154E-03	-2.3469E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
6	3.3105E-04	-3.5765E-03	-2.3469E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
7	4.9653E-04	-3.6392E-03	-2.3469E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
8	2.9956E-04	-3.2695E-03	-2.0173E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
9	4.6504E-04	-3.3322E-03	-2.0173E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
10	6.2626E-04	-3.3933E-03	-2.0173E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
11	7.8748E-04	-3.4544E-03	-2.0173E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
12	9.4869E-04	-3.5154E-03	-2.0173E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
13	1.1099E-03	-3.5765E-03	-2.0173E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
14	1.2754E-03	-3.6392E-03	-2.0173E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
15	6.4170E-04	-3.6560E-03	-2.3042E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
16	7.8604E-04	-3.6560E-03	-2.2432E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
17	9.3037E-04	-3.6560E-03	-2.1821E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
18	1.0747E-03	-3.6560E-03	-2.1210E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
19	1.2190E-03	-3.6560E-03	-2.0600E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
20	-4.2295E-04	-3.2527E-03	-2.3042E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
21	-2.7861E-04	-3.2527E-03	-2.2432E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
22	-1.3428E-04	-3.2527E-03	-2.1821E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
23	1.0055E-05	-3.2527E-03	-2.1210E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
24	1.5439E-04	-3.2527E-03	-2.0600E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
25	2.7059E-04	-2.7529E-03	-1.4525E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
26	4.1493E-04	-2.7529E-03	-1.3915E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
27	5.5926E-04	-2.7529E-03	-1.3304E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
28	7.0360E-04	-2.7529E-03	-1.2693E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
29	8.4793E-04	-2.7529E-03	-1.2083E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
30	-5.1843E-05	-2.6308E-03	-1.4525E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
31	9.2492E-05	-2.6308E-03	-1.3915E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
32	2.3683E-04	-2.6308E-03	-1.3304E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
33	3.8116E-04	-2.6308E-03	-1.2693E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
34	5.2550E-04	-2.6308E-03	-1.2083E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
MINIMUM	-4.7930E-04	-3.6560E-03	-2.3469E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
Pile N.	1	15	1	1	1	1
MAXIMUM	1.2754E-03	-2.6308E-03	-1.2083E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
Pile N.	14	30	29	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
1	-1401.5	-740.14	-979.50	-18.721	4223.7	-2529.6
2	-917.64	-752.56	-976.48	-18.721	4215.6	-2577.7
3	-446.23	-764.58	-973.56	-18.721	4207.7	-2624.3
4	25.289	-776.50	-970.65	-18.721	4199.8	-2670.7
5	498.59	-788.35	-967.75	-18.721	4192.0	-2716.9

<b>APPALTATORE:</b> Consorzio  Soci  	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
<b>COMMESSA</b> <b>IF1N</b>	<b>LOTTO</b> <b>01 E ZZ</b>	<b>CODIFICA</b> <b>RG</b>	<b>DOCUMENTO</b> <b>MD0000 001</b>	<b>REV.</b> <b>B</b>	<b>FOGLIO</b> <b>238 di 260</b>

6	971.90	-800.12	-964.86	-18.721	4184.1	-2763.0
7	1457.7	-812.11	-961.91	-18.721	4176.1	-2810.1
8	879.46	-755.10	-845.80	-18.721	3574.7	-2570.7
9	1365.3	-767.46	-842.82	-18.721	3566.6	-2618.7
10	1838.6	-779.41	-839.94	-18.721	3558.7	-2665.3
11	2311.9	-791.26	-837.07	-18.721	3550.9	-2711.6
12	2785.2	-803.03	-834.22	-18.721	3543.1	-2757.8
13	3258.5	-814.71	-831.38	-18.721	3535.4	-2803.8
14	3744.3	-826.61	-828.50	-18.721	3527.5	-2850.8
15	1883.9	-1499.9	-475.62	-18.721	1603.5	-6805.0
16	2307.6	-1502.0	-462.39	-18.721	1555.2	-6811.0
17	2731.4	-1504.0	-449.11	-18.721	1506.7	-6816.9
18	3155.1	-1505.9	-435.78	-18.721	1458.2	-6822.7
19	3578.9	-1507.9	-422.40	-18.721	1409.5	-6828.4
20	-1236.7	-1366.6	-490.78	-18.721	1638.6	-6105.9
21	-814.69	-1368.8	-477.30	-18.721	1589.7	-6112.3
22	-392.64	-1371.0	-463.75	-18.721	1540.6	-6118.7
23	29.520	-1373.2	-450.14	-18.721	1491.3	-6124.9
24	453.26	-1375.3	-436.47	-18.721	1441.9	-6131.1
25	1069.1	-2078.4	-456.01	-12.328	1292.9	-8132.7
26	1639.4	-2080.5	-434.69	-12.328	1225.6	-8137.0
27	2209.7	-2082.6	-413.28	-12.328	1158.2	-8141.1
28	2779.9	-2084.6	-391.78	-12.328	1090.7	-8145.1
29	3350.2	-2086.5	-370.19	-12.328	1023.0	-8148.9
30	-203.07	-1996.1	-461.19	-12.328	1302.1	-7766.5
31	365.44	-1998.3	-439.71	-12.328	1234.5	-7770.9
32	935.70	-2000.4	-418.14	-12.328	1166.8	-7775.2
33	1506.0	-2002.5	-396.46	-12.328	1098.9	-7779.4
34	2076.2	-2004.5	-374.70	-12.328	1030.8	-7783.4
MINIMUM	-1401.5	-2086.5	-979.50	-18.721	1023.0	-8148.9
Pile N.	1	29	1	1	29	29
MAXIMUM	3744.3	-740.14	-370.19	-12.328	4223.7	-2529.6
Pile N.	14	1	29	25	1	1

PILE GROUP STRESS, KN/ M\*\*2

1	7824.3
2	7783.0
3	7742.7
4	7719.0
5	7993.3
6	8267.4
7	8548.5
8	7620.6
9	7905.2
10	8182.2
11	8458.9
12	8735.4
13	9011.6
14	9294.8
15	6715.5
16	6766.3
17	6818.4
18	6871.8
19	6926.7
20	6274.5
21	6036.3
22	5799.2
23	5583.0
24	5630.3
25	6535.9
26	6626.4
27	6720.5
28	6818.5
29	6920.5
30	6074.7
31	6025.1
32	6115.0
33	6208.9
34	6306.8
MINIMUM	5583.0
Pile N.	23
MAXIMUM	9294.8
Pile N.	14

\* EFFECTS FOR LATERALLY LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*

PILE	DISPL.	DISPL.	MOMENT	MOMENT	SHEAR	SHEAR	SOIL REACT	SOIL REACT	TOTAL	FLEX. RIG.	FLEX. RIG.
	y-DIR	z-DIR	z-DIR	y-DIR	y-DIR	z-DIR	y-DIR	z-DIR	STRESS	z-DIR	y-DIR
	M	M	KN- M	KN- M	KN	KN	KN/ M	KN/ M	KN/ M**2	KN- M**2	KN- M**2
1	-3.2695E-03	-2.3469E-03	-864.56	-1588.7	-740.07	-979.47	-166.27	-162.40	467.17	1.1340E+07	4.9219E+07
x( M)	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.5000	50.000	0.0000	0.0000
2	-3.3322E-03	-2.3469E-03	-879.92	-1586.8	-752.51	-976.46	-168.85	-161.62	305.88	1.1340E+07	4.9219E+07

<b>APPALTATORE:</b>	
<b>Consorzio</b> 	<b>Soci</b>  
<b>PROGETTAZIONE:</b>	
<b>Mandatario</b> 	<b>Mandanti</b>  
<b>PROGETTO ESECUTIVO</b>	
<b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	

## ITINERARIO NAPOLI – BARI

### RADDOPPIO TRATTA APICE – ORSARA I LOTTO FUNZIONALE APICE – HIRPINIA

				COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO		
				IF1N	01 E ZZ	RG	MD0000 001	B	239 di 260		
x ( M )	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.0000	50.000	0.0000	0.0000
3	-3.3933E-03	-2.3469E-03	-894.82	-1585.0	-764.55	-973.55	-171.33	-160.87	148.74	1.1340E+07	4.9219E+07
x ( M )	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.0000	50.000	0.0000	0.0000
4	-3.4544E-03	-2.3469E-03	-909.67	-1583.6	-776.51	-970.65	-173.80	-160.11	8.4295	1.1340E+07	4.9219E+07
x ( M )	0.0000	0.0000	7.5000	10.000	0.0000	0.0000	5.0000	5.0000	50.000	0.0000	0.0000
5	-3.5154E-03	-2.3469E-03	-924.45	-1582.2	-788.38	-967.76	-176.23	-159.36	166.20	1.1340E+07	4.9219E+07
x ( M )	0.0000	0.0000	7.5000	10.000	0.0000	0.0000	5.0000	5.0000	50.000	0.0000	0.0000
6	-3.5765E-03	-2.3469E-03	-939.17	-1580.8	-800.18	-964.88	-178.65	-158.62	323.97	1.1340E+07	4.9219E+07
x ( M )	0.0000	0.0000	7.5000	10.000	0.0000	0.0000	5.0000	5.0000	50.000	0.0000	0.0000
7	-3.6392E-03	-2.3469E-03	-954.21	-1579.3	-812.20	-961.94	-181.11	-157.85	485.90	1.1340E+07	4.9219E+07
x ( M )	0.0000	0.0000	7.5000	10.000	0.0000	0.0000	5.0000	5.0000	50.000	0.0000	0.0000
8	-3.2695E-03	-2.0173E-03	-884.55	-1402.0	-755.15	-845.82	-170.99	-142.26	293.15	1.1340E+07	4.9219E+07
x ( M )	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.0000	50.000	0.0000	0.0000
9	-3.3322E-03	-2.0173E-03	-900.05	-1400.2	-767.53	-842.85	-173.53	-141.47	455.09	1.1340E+07	4.9219E+07
x ( M )	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.0000	50.000	0.0000	0.0000
10	-3.3933E-03	-2.0173E-03	-915.08	-1398.4	-779.52	-839.98	-175.98	-140.70	612.86	1.1340E+07	4.9219E+07
x ( M )	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.0000	50.000	0.0000	0.0000
11	-3.4544E-03	-2.0173E-03	-930.04	-1396.6	-791.40	-837.11	-178.40	-139.94	770.63	1.1340E+07	4.9219E+07
x ( M )	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.0000	50.000	0.0000	0.0000
12	-3.5154E-03	-2.0173E-03	-944.94	-1394.7	-803.20	-834.27	-180.80	-139.19	928.40	1.1340E+07	4.9219E+07
x ( M )	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.0000	50.000	0.0000	0.0000
13	-3.5765E-03	-2.0173E-03	-959.76	-1392.9	-814.91	-831.44	-183.17	-138.44	1086.2	1.1340E+07	4.9219E+07
x ( M )	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.0000	50.000	0.0000	0.0000
14	-3.6392E-03	-2.0173E-03	-974.90	-1391.0	-826.84	-828.56	-185.59	-137.69	1248.1	1.1340E+07	4.9219E+07
x ( M )	0.0000	0.0000	7.5000	9.5000	0.0000	0.0000	5.0000	5.0000	50.000	0.0000	0.0000
15	-3.6560E-03	-2.3042E-03	-2306.1	-566.99	-1500.0	-475.68	-239.69	-106.47	627.97	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	7.5000	10.000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
16	-3.6560E-03	-2.2432E-03	-2307.5	-552.20	-1502.1	-462.47	-240.19	-103.68	769.22	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
17	-3.6560E-03	-2.1821E-03	-2308.9	-537.38	-1504.1	-449.20	-240.68	-100.88	910.46	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
18	-3.6560E-03	-2.1210E-03	-2310.3	-522.51	-1506.1	-435.88	-241.16	-98.058	1051.7	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
19	-3.6560E-03	-2.0600E-03	-2311.6	-507.61	-1508.0	-422.51	-241.63	-95.219	1193.0	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
20	-3.2527E-03	-2.3042E-03	-2103.1	-580.69	-1366.5	-490.73	-221.77	-110.90	412.24	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
21	-3.2527E-03	-2.2432E-03	-2104.5	-565.58	-1368.8	-477.27	-222.34	-108.05	271.56	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
22	-3.2527E-03	-2.1821E-03	-2105.9	-550.43	-1371.0	-463.74	-222.89	-105.18	130.88	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
23	-3.2527E-03	-2.1210E-03	-2107.2	-535.23	-1373.2	-450.14	-223.43	-102.29	9.8399	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
24	-3.2527E-03	-2.0600E-03	-2108.6	-519.99	-1375.3	-436.48	-223.96	-99.376	151.09	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	10.000	7.5000	0.0000	0.0000	5.0000	4.5000	50.000	0.0000	0.0000
25	-2.7529E-03	-1.4525E-03	-4114.4	-617.80	-2078.5	-456.03	-1236.8	-282.08	356.37	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	7.9200	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
26	-2.7529E-03	-1.3915E-03	-4114.8	-589.51	-2080.6	-434.72	-1237.6	-268.27	546.46	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	7.9200	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
27	-2.7529E-03	-1.3304E-03	-4115.2	-561.21	-2082.7	-413.32	-1238.4	-254.48	736.55	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	7.9200	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
28	-2.7529E-03	-1.2693E-03	-4115.6	-532.92	-2084.7	-391.83	-1239.1	-240.68	926.64	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	7.9200	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
29	-2.7529E-03	-1.2083E-03	-4115.9	-504.63	-2086.6	-370.25	-1239.8	-226.89	1116.7	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	7.9200	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
30	-2.6308E-03	-1.4525E-03	-3945.8	-619.78	-1996.0	-461.18	-1198.2	-284.97	67.691	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	7.9200	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
31	-2.6308E-03	-1.3915E-03	-3946.2	-591.37	-1998.3	-439.72	-1199.1	-271.02	121.81	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	7.9200	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
32	-2.6308E-03	-1.3304E-03	-3946.5	-562.97	-2000.5	-418.15	-1199.9	-257.07	311.90	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	7.9200	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
33	-2.6308E-03	-1.2693E-03	-3946.9	-534.57	-2002.6	-396.49	-1200.7	-243.13	501.99	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	7.9200	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
34	-2.6308E-03	-1.2083E-03	-3947.2	-506.17	-2004.6	-374.73	-1201.4	-229.19	692.08	4.9219E+07	1.1340E+07
x ( M )	0.0000	0.0000	7.9200	7.2000	0.0000	0.0000	7.2000	7.2000	36.000	0.0000	0.0000
Min.	-3.6560E-03	-2.3469E-03	-4115.9	-1588.7	-2086.6	-979.47	-1239.8	-284.97	8.4295	1.1340E+07	1.1340E+07
Pile N.	15	1	29	1	29	1	29	30	4	1	15

\* MAXIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2	FLEX. RIG. z-DIR KN- M**2	FLEX. RIG. y-DIR KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	5.3897E-05	4.1129E-05	2529.6	4223.7	163.61	237.54	39.244	68.333	7824.3	1.1340E+07	4.9219E+07
x ( M )	13.000	16.500	0.0000	0.0000	11.000	14.000	13.500	21.500	0.0000	0.0000	0.0000
2	5.5092E-05	4.1057E-05	2577.7	4215.6	166.50	237.17	39.711	68.475	7783.0	1.1340E+07	4.9219E+07
x ( M )	13.000	16.500	0.0000	0.0000	11.000	14.000	13.500	21.500	0.0000	0.0000	0.0000
3	5.6258E-05	4.0986E-05	2624.3	4207.7	169.29	236.80	40.162	68.615	7742.7	1.1340E+07	4.9219E+07
x ( M )	13.000	16.500	0.0000	0.0000	11.000	14.000	13.500	21.500	0.0000	0.0000	0.0000
4	5.7424E-05	4.0916E-05	2670.7	4199.8	172.08	236.43	40.609	68.757	7719.0	1.1340E+07	4.9219E+07
x ( M )	13.000	16.500	0.0000	0.0000	11.000	14.000	13.500	21.500	0.0000	0.0000	0.0000
5	5.8592E-05	4.0846E-05	2716.9	4192.0	174.85	236.06	41.050	68.899	7993.3	1.1340E+07	4.9219E+07
x ( M )	13.000	16.500	0.0000	0.0000	11.000	14.000	13.500	21.500	0.0000	0.0000	0.0000
6	5.9759E-05	4.0776E-05	2763.0	4184.1	177.61	235.69	41.488	69.042	8267.4	1.1340E+07	4.9219E+07
x ( M )	13.000	16.500	0.0000	0.0000	11.000	14.000	13.500	21.500	0.0000	0.0000	0.0000
7	6.0959E-05	4.0704E-05	2810.1	4176.1	180.43	235.30	41.933	69.191	8548.5	1.1340E+07	4.9219E+07

APPALTIATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTAZIONE:

Mandataria

Mandanti



PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	240 di 260

x( M)	13.000	16.500	0.0000	0.0000	11.000	14.000	13.500	21.500	0.0000	0.0000	0.0000
8	5.5260E-05	3.5929E-05	2570.7	3574.7	169.90	212.12	39.589	52.050	7620.6	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	13.500	13.000	21.500	0.0000	0.0000	0.0000
9	5.6508E-05	3.5883E-05	2618.7	3566.6	172.86	211.66	40.018	52.212	7905.2	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	13.500	13.000	21.500	0.0000	0.0000	0.0000
10	5.7725E-05	3.5837E-05	2665.3	3558.7	175.74	211.20	40.431	52.370	8182.2	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	13.500	13.000	21.500	0.0000	0.0000	0.0000
11	5.8943E-05	3.5792E-05	2711.6	3550.9	178.59	210.74	40.875	52.529	8458.9	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	13.500	13.500	21.500	0.0000	0.0000	0.0000
12	6.0162E-05	3.5747E-05	2757.8	3543.1	181.44	210.29	41.346	52.688	8735.4	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	13.500	13.500	21.500	0.0000	0.0000	0.0000
13	6.1382E-05	3.5701E-05	2803.8	3535.4	184.27	209.83	41.811	52.849	9011.6	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	13.500	13.500	21.500	0.0000	0.0000	0.0000
14	6.2634E-05	3.5654E-05	2850.8	3527.5	187.16	209.37	42.284	53.014	9294.8	1.1340E+07	4.9219E+07
x( M)	13.000	16.500	0.0000	0.0000	11.000	13.500	21.500	21.500	0.0000	0.0000	0.0000
15	5.9440E-05	3.4098E-05	6805.0	1603.5	338.74	102.25	137.09	30.607	6715.5	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.500	21.500	14.000	0.0000	0.0000	0.0000
16	5.9617E-05	3.3086E-05	6811.0	1555.2	339.21	99.601	137.13	30.117	6766.3	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.500	21.500	14.000	0.0000	0.0000	0.0000
17	5.9795E-05	3.2078E-05	6816.9	1506.7	339.67	96.944	137.16	29.617	6818.4	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.500	21.500	14.000	0.0000	0.0000	0.0000
18	5.9975E-05	3.1072E-05	6822.7	1458.2	340.14	94.319	137.21	29.104	6871.8	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.000	21.500	14.000	0.0000	0.0000	0.0000
19	6.0158E-05	3.0069E-05	6828.4	1409.5	340.61	91.692	137.26	28.578	6926.7	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.000	21.500	14.000	0.0000	0.0000	0.0000
20	5.4819E-05	3.4315E-05	6105.9	1638.6	309.96	106.17	115.48	30.060	6274.5	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.000	21.500	14.000	0.0000	0.0000	0.0000
21	5.4965E-05	3.3278E-05	6112.3	1589.7	310.34	103.48	115.47	29.483	6036.3	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.000	21.500	14.000	0.0000	0.0000	0.0000
22	5.5113E-05	3.2243E-05	6118.7	1540.6	310.73	100.77	115.47	28.890	5799.2	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.000	21.500	14.000	0.0000	0.0000	0.0000
23	5.5262E-05	3.1213E-05	6124.9	1491.3	311.11	98.055	115.48	28.280	5583.0	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.000	21.500	14.000	0.0000	0.0000	0.0000
24	5.5414E-05	3.0186E-05	6131.1	1441.9	311.50	95.327	115.48	27.734	5630.3	4.9219E+07	1.1340E+07
x( M)	17.000	13.500	0.0000	0.0000	14.500	11.000	21.500	13.500	0.0000	0.0000	0.0000
25	4.4494E-05	1.4604E-05	8132.7	1292.9	1062.4	215.05	290.90	81.696	6535.9	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
26	4.4503E-05	1.3943E-05	8137.0	1225.6	1062.5	205.11	290.91	77.909	6626.4	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
27	4.4511E-05	1.3281E-05	8141.1	1158.2	1062.6	195.16	290.93	74.123	6720.5	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
28	4.4520E-05	1.2618E-05	8145.1	1090.7	1062.7	185.22	290.95	70.337	6818.5	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
29	4.4528E-05	1.1955E-05	8148.9	1023.0	1062.9	175.28	290.96	66.552	6920.5	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
30	4.2762E-05	1.4749E-05	7766.5	1302.1	1019.2	216.08	278.57	82.028	6074.7	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
31	4.2770E-05	1.4080E-05	7770.9	1234.5	1019.3	206.07	278.58	78.220	6025.1	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
32	4.2778E-05	1.3410E-05	7775.2	1166.8	1019.4	196.07	278.59	74.413	6115.0	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
33	4.2785E-05	1.2740E-05	7779.4	1098.9	1019.5	186.06	278.60	70.607	6208.9	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
34	4.2793E-05	1.2069E-05	7783.4	1030.8	1019.6	176.06	278.62	66.802	6306.8	4.9219E+07	1.1340E+07
x( M)	11.880	10.080	0.0000	0.0000	10.080	9.0000	12.240	10.440	0.0000	0.0000	0.0000
Max.	6.2634E-05	4.1129E-05	8148.9	4223.7	1062.9	237.54	290.96	82.028	9294.8	4.9219E+07	4.9219E+07
Pile N.	14	1	29	1	29	1	29	30	14	15	1

LOAD CASE : 24  
CASE NAME : Load Case  
LOAD TYPE : Special, Sp

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

VERT. LOAD, KN	HOR. LOAD Y, KN	HOR. LOAD Z, KN
38265.0	-45761.0	21621.2
MOMENT X, KN- M	MOMENT Y, KN- M	MOMENT Z, KN- M
17912.4	88145.1	-2.95676E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

VERTICAL, M	HORIZONTAL Y, M	HORIZONTAL Z, M
3.47683E-04	-3.47367E-03	2.21548E-03
ANGLE ROT. X,RAD	ANGLE ROT. Y,RAD	ANGLE ROT. Z,RAD
2.32468E-05	6.20690E-05	5.58656E-05



<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>							COMMESSA <b>IF1N</b>

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
*****	*****	*****	*****	*****	*****	*****
1	4.4604E-04	-3.6601E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
2	2.7721E-04	-3.5969E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
3	1.1273E-04	-3.5353E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
4	-5.1756E-05	-3.4737E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
5	-2.1624E-04	-3.4121E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
6	-3.8072E-04	-3.3505E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
7	-5.4955E-04	-3.2872E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
8	1.2449E-03	-3.6601E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
9	1.0761E-03	-3.5969E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
10	9.1160E-04	-3.5353E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
11	7.4712E-04	-3.4737E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
12	5.8264E-04	-3.4121E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
13	4.1816E-04	-3.3505E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
14	2.4933E-04	-3.2872E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
15	-4.9151E-04	-3.2703E-03	2.3387E-03	2.3247E-05	6.2069E-05	5.5866E-05
16	-3.4346E-04	-3.2703E-03	2.2771E-03	2.3247E-05	6.2069E-05	5.5866E-05
17	-1.9542E-04	-3.2703E-03	2.2155E-03	2.3247E-05	6.2069E-05	5.5866E-05
18	-4.7377E-05	-3.2703E-03	2.1539E-03	2.3247E-05	6.2069E-05	5.5866E-05
19	1.0067E-04	-3.2703E-03	2.0923E-03	2.3247E-05	6.2069E-05	5.5866E-05
20	5.9470E-04	-3.6771E-03	2.3387E-03	2.3247E-05	6.2069E-05	5.5866E-05
21	7.4274E-04	-3.6771E-03	2.2771E-03	2.3247E-05	6.2069E-05	5.5866E-05
22	8.9079E-04	-3.6771E-03	2.2155E-03	2.3247E-05	6.2069E-05	5.5866E-05
23	1.0388E-03	-3.6771E-03	2.1539E-03	2.3247E-05	6.2069E-05	5.5866E-05
24	1.1869E-03	-3.6771E-03	2.0923E-03	2.3247E-05	6.2069E-05	5.5866E-05
25	-1.1289E-04	-2.6299E-03	1.4697E-03	2.3247E-05	6.2069E-05	5.5866E-05
26	3.5156E-05	-2.6299E-03	1.4081E-03	2.3247E-05	6.2069E-05	5.5866E-05
27	1.8320E-04	-2.6299E-03	1.3465E-03	2.3247E-05	6.2069E-05	5.5866E-05
28	3.3124E-04	-2.6299E-03	1.2849E-03	2.3247E-05	6.2069E-05	5.5866E-05
29	4.7929E-04	-2.6299E-03	1.2233E-03	2.3247E-05	6.2069E-05	5.5866E-05
30	2.1608E-04	-2.7532E-03	1.4697E-03	2.3247E-05	6.2069E-05	5.5866E-05
31	3.6412E-04	-2.7532E-03	1.4081E-03	2.3247E-05	6.2069E-05	5.5866E-05
32	5.1216E-04	-2.7532E-03	1.3465E-03	2.3247E-05	6.2069E-05	5.5866E-05
33	6.6021E-04	-2.7532E-03	1.2849E-03	2.3247E-05	6.2069E-05	5.5866E-05
34	8.0825E-04	-2.7532E-03	1.2233E-03	2.3247E-05	6.2069E-05	5.5866E-05
MINIMUM	-5.4955E-04	-3.6771E-03	1.2233E-03	2.3247E-05	6.2069E-05	5.5866E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.2449E-03	-2.6299E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	1309.5	-813.71	972.46	18.886	-4222.9	-2815.7
2	813.83	-801.62	975.43	18.886	-4231.0	-2768.2
3	330.94	-789.77	978.34	18.886	-4238.8	-2721.8
4	-151.34	-777.84	981.26	18.886	-4246.7	-2675.2
5	-632.30	-765.82	984.20	18.886	-4254.7	-2628.4
6	-1113.3	-753.72	987.15	18.886	-4262.6	-2581.4
7	-1606.9	-741.21	990.18	18.886	-4270.8	-2533.0
8	3654.8	-828.29	838.45	18.886	-3570.5	-2856.7
9	3159.2	-816.30	841.36	18.886	-3578.5	-2809.3
10	2676.3	-804.54	844.22	18.886	-3586.3	-2763.0
11	2193.4	-792.69	847.11	18.886	-3594.1	-2716.4
12	1710.5	-780.75	850.01	18.886	-3602.0	-2669.7
13	1227.6	-768.71	852.92	18.886	-3610.0	-2622.8
14	731.98	-756.26	855.93	18.886	-3618.1	-2574.4
15	-1437.2	-1368.9	496.83	18.886	-1659.3	-6113.5
16	-1004.3	-1371.2	483.27	18.886	-1610.0	-6120.0
17	-571.42	-1373.4	469.65	18.886	-1560.5	-6126.4
18	-138.53	-1375.6	455.96	18.886	-1510.9	-6132.7
19	295.54	-1377.8	442.20	18.886	-1461.2	-6139.0
20	1745.9	-1503.3	481.46	18.886	-1623.6	-6818.3
21	2180.6	-1505.4	468.15	18.886	-1575.0	-6824.3
22	2615.2	-1507.4	454.79	18.886	-1526.2	-6830.3
23	3049.8	-1509.4	441.38	18.886	-1477.3	-6836.2
24	3484.4	-1511.3	427.91	18.886	-1428.3	-6842.0
25	-442.20	-1990.7	466.02	12.436	-1314.6	-7735.8
26	138.90	-1993.0	444.37	12.436	-1246.5	-7740.3
27	723.82	-1995.2	422.62	12.436	-1178.2	-7744.7
28	1308.7	-1997.3	400.77	12.436	-1109.7	-7748.9
29	1893.7	-1999.4	378.83	12.436	-1041.1	-7753.0
30	853.73	-2073.9	460.75	12.436	-1305.3	-8105.5
31	1438.6	-2076.1	439.26	12.436	-1237.4	-8109.8
32	2023.6	-2078.2	417.68	12.436	-1169.5	-8114.0
33	2608.5	-2080.2	396.00	12.436	-1101.4	-8118.1
34	3193.4	-2082.1	374.24	12.436	-1033.1	-8122.0

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandatario

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 242 di 260
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MINIMUM	-1606.9	-2082.1	374.24	12.436	-4270.8	-8122.0
Pile N.	7	34	34	25	7	34
MAXIMUM	3654.8	-741.21	990.18	18.886	-1033.1	-2533.0
Pile N.	8	7	7	1	34	7

THE PILE COORDINATE SYSTEM (LOCAL AXES)

\* PILE TOP DISPLACEMENTS \*

PILE GROUP	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
1	4.4604E-04	-3.6601E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
2	2.7721E-04	-3.5969E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
3	1.1273E-04	-3.5353E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
4	-5.1756E-05	-3.4737E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
5	-2.1624E-04	-3.4121E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
6	-3.8072E-04	-3.3505E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
7	-5.4955E-04	-3.2872E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
8	1.2449E-03	-3.6601E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
9	1.0761E-03	-3.5969E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
10	9.1160E-04	-3.5353E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
11	7.4712E-04	-3.4737E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
12	5.8264E-04	-3.4121E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
13	4.1816E-04	-3.3505E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
14	2.4933E-04	-3.2872E-03	2.0493E-03	2.3247E-05	6.2069E-05	5.5866E-05
15	-4.9151E-04	-3.2703E-03	2.3387E-03	2.3247E-05	6.2069E-05	5.5866E-05
16	-3.4346E-04	-3.2703E-03	2.2771E-03	2.3247E-05	6.2069E-05	5.5866E-05
17	-1.9542E-04	-3.2703E-03	2.2155E-03	2.3247E-05	6.2069E-05	5.5866E-05
18	-4.7377E-05	-3.2703E-03	2.1539E-03	2.3247E-05	6.2069E-05	5.5866E-05
19	1.0067E-04	-3.2703E-03	2.0923E-03	2.3247E-05	6.2069E-05	5.5866E-05
20	5.9470E-04	-3.6771E-03	2.3387E-03	2.3247E-05	6.2069E-05	5.5866E-05
21	7.4274E-04	-3.6771E-03	2.2771E-03	2.3247E-05	6.2069E-05	5.5866E-05
22	8.9079E-04	-3.6771E-03	2.2155E-03	2.3247E-05	6.2069E-05	5.5866E-05
23	1.0388E-03	-3.6771E-03	2.1539E-03	2.3247E-05	6.2069E-05	5.5866E-05
24	1.1869E-03	-3.6771E-03	2.0923E-03	2.3247E-05	6.2069E-05	5.5866E-05
25	-1.1289E-04	-2.6299E-03	1.4697E-03	2.3247E-05	6.2069E-05	5.5866E-05
26	3.5156E-05	-2.6299E-03	1.4081E-03	2.3247E-05	6.2069E-05	5.5866E-05
27	1.8320E-04	-2.6299E-03	1.3465E-03	2.3247E-05	6.2069E-05	5.5866E-05
28	3.3124E-04	-2.6299E-03	1.2849E-03	2.3247E-05	6.2069E-05	5.5866E-05
29	4.7929E-04	-2.6299E-03	1.2233E-03	2.3247E-05	6.2069E-05	5.5866E-05
30	2.1608E-04	-2.7532E-03	1.4697E-03	2.3247E-05	6.2069E-05	5.5866E-05
31	3.6412E-04	-2.7532E-03	1.4081E-03	2.3247E-05	6.2069E-05	5.5866E-05
32	5.1216E-04	-2.7532E-03	1.3465E-03	2.3247E-05	6.2069E-05	5.5866E-05
33	6.6021E-04	-2.7532E-03	1.2849E-03	2.3247E-05	6.2069E-05	5.5866E-05
34	8.0825E-04	-2.7532E-03	1.2233E-03	2.3247E-05	6.2069E-05	5.5866E-05
MINIMUM	-5.4955E-04	-3.6771E-03	1.2233E-03	2.3247E-05	6.2069E-05	5.5866E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.2449E-03	-2.6299E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS \*

PILE GROUP	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
*****	*****	*****	*****	*****	*****	*****
1	1309.5	-813.71	972.46	18.886	-4222.9	-2815.7
2	813.83	-801.62	975.43	18.886	-4231.0	-2768.2
3	330.94	-789.77	978.34	18.886	-4238.8	-2721.8
4	-151.34	-777.84	981.26	18.886	-4246.7	-2675.2
5	-632.30	-765.82	984.20	18.886	-4254.7	-2628.4
6	-1113.3	-753.72	987.15	18.886	-4262.6	-2581.4
7	-1606.9	-741.21	990.18	18.886	-4270.8	-2533.0
8	3654.8	-828.29	838.45	18.886	-3570.5	-2856.7
9	3159.2	-816.30	841.36	18.886	-3578.5	-2809.3
10	2676.3	-804.54	844.22	18.886	-3586.3	-2763.0
11	2193.4	-792.69	847.11	18.886	-3594.1	-2716.4
12	1710.5	-780.75	850.01	18.886	-3602.0	-2669.7
13	1227.6	-768.71	852.92	18.886	-3610.0	-2622.8
14	731.98	-756.26	855.93	18.886	-3618.1	-2574.4
15	-1437.2	-1368.9	496.83	18.886	-1659.3	-6113.5
16	-1004.3	-1371.2	483.27	18.886	-1610.0	-6120.0
17	-571.42	-1373.4	469.65	18.886	-1560.5	-6126.4
18	-138.53	-1375.6	455.96	18.886	-1510.9	-6132.7
19	295.54	-1377.8	442.20	18.886	-1461.2	-6139.0
20	1745.9	-1503.3	481.46	18.886	-1623.6	-6818.3
21	2180.6	-1505.4	468.15	18.886	-1575.0	-6824.3
22	2615.2	-1507.4	454.79	18.886	-1526.2	-6830.3
23	3049.8	-1509.4	441.38	18.886	-1477.3	-6836.2
24	3484.4	-1511.3	427.91	18.886	-1428.3	-6842.0
25	-442.20	-1990.7	466.02	12.436	-1314.6	-7735.8
26	138.90	-1993.0	444.37	12.436	-1246.5	-7740.3
27	723.82	-1995.2	422.62	12.436	-1178.2	-7744.7
28	1308.7	-1997.3	400.77	12.436	-1109.7	-7748.9
29	1893.7	-1999.4	378.83	12.436	-1041.1	-7753.0
30	853.73	-2073.9	460.75	12.436	-1305.3	-8105.5
31	1438.6	-2076.1	439.26	12.436	-1237.4	-8109.8

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandataria

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF1N 01 E ZZ RG MD0000 001 B 243 di 260

32	2023.6	-2078.2	417.68	12.436	-1169.5	-8114.0
33	2608.5	-2080.2	396.00	12.436	-1101.4	-8118.1
34	3193.4	-2082.1	374.24	12.436	-1033.1	-8122.0
MINIMUM	-1606.9	-2082.1	374.24	12.436	-4270.8	-8122.0
Pile N.	7	34	34	25	7	34
MAXIMUM	3654.8	-741.21	990.18	18.886	-1033.1	-2533.0
Pile N.	8	7	7	1	34	7

PILE GROUP STRESS, KN/ M\*\*2  
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1	8523.0
2	8237.8
3	7959.7
4	7782.6
5	7825.5
6	7868.3
7	7912.0
8	9287.8
9	9000.5
10	8720.3
11	8439.8
12	8159.0
13	7878.0
14	7589.3
15	6387.1
16	6144.1
17	5902.2
18	5661.5
19	5618.7
20	6714.5
21	6767.8
22	6822.4
23	6878.3
24	6935.7
25	6159.0
26	5952.4
27	6045.4
28	6142.3
29	6243.4
30	6469.3
31	6562.9
32	6660.2
33	6761.4
34	6866.7

MINIMUM 5618.7  
Pile N. 19  
MAXIMUM 9287.8  
Pile N. 8

\* EFFECTS FOR LATERALLY LOADED PILE \*

\* MINIMUM VALUES AND LOCATIONS \*





PILE	DISPL. y-DIR	DISPL. z-DIR	MOMENT z-DIR	MOMENT y-DIR	SHEAR y-DIR	SHEAR z-DIR	SOIL REACT y-DIR	SOIL REACT z-DIR	TOTAL STRESS	FLEX. RIG. z-DIR	FLEX. RIG. y-DIR
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
	M	M	KN- M	KN- M	KN	KN	KN/ M	KN/ M	KN/ M**2	KN- M**2	KN- M**2
1	-3.6601E-03	-4.1206E-05	-957.15	-4222.9	-813.79	-237.84	-181.34	-70.749	436.49	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	14.000	5.0000	21.500	50.000	0.0000	0.0000
2	-3.5969E-03	-4.1280E-05	-942.00	-4231.0	-801.67	-238.23	-178.87	-70.600	271.28	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	14.000	5.0000	21.500	50.000	0.0000	0.0000
3	-3.5353E-03	-4.1353E-05	-927.18	-4238.8	-789.79	-238.60	-176.44	-70.457	110.31	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	14.000	5.0000	21.500	50.000	0.0000	0.0000
4	-3.4737E-03	-4.1425E-05	-912.29	-4246.7	-777.83	-238.98	-173.98	-70.315	50.446	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	14.000	5.0000	21.500	50.000	0.0000	0.0000
5	-3.4121E-03	-4.1498E-05	-897.34	-4254.7	-765.78	-239.35	-171.50	-70.173	210.77	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	14.000	5.0000	21.500	50.000	0.0000	0.0000
6	-3.3505E-03	-4.1570E-05	-882.33	-4262.6	-753.66	-239.73	-168.99	-70.034	371.09	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	14.000	5.0000	21.500	50.000	0.0000	0.0000
7	-3.2872E-03	-4.1645E-05	-866.86	-4270.8	-741.12	-240.11	-166.39	-69.892	535.64	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	14.000	5.0000	21.500	50.000	0.0000	0.0000
8	-3.6601E-03	-3.6177E-05	-977.98	-3570.5	-828.52	-211.71	-185.86	-54.376	1218.3	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	13.500	5.0000	21.500	50.000	0.0000	0.0000
9	-3.5969E-03	-3.6226E-05	-962.72	-3578.5	-816.50	-212.18	-183.43	-54.211	1053.1	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	13.500	5.0000	21.500	50.000	0.0000	0.0000
10	-3.5353E-03	-3.6273E-05	-947.79	-3586.3	-804.70	-212.64	-181.03	-54.050	892.10	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	13.500	5.0000	21.500	50.000	0.0000	0.0000
11	-3.4737E-03	-3.6321E-05	-932.79	-3594.1	-792.82	-213.10	-178.62	-53.890	731.14	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	13.500	5.0000	21.500	50.000	0.0000	0.0000
12	-3.4121E-03	-3.6368E-05	-917.72	-3602.0	-780.85	-213.56	-176.18	-53.730	570.17	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	13.500	5.0000	21.500	50.000	0.0000	0.0000
13	-3.3505E-03	-3.6415E-05	-902.58	-3610.0	-768.78	-214.03	-173.71	-53.572	409.21	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	13.500	5.0000	21.500	50.000	0.0000	0.0000
14	-3.2872E-03	-3.6464E-05	-886.97	-3618.1	-756.30	-214.50	-171.15	-53.410	243.99	1.1340E+07	4.9219E+07
x( M)	0.0000	16.500	7.5000	0.0000	0.0000	13.500	5.0000	21.500	50.000	0.0000	0.0000
15	-3.2703E-03	-3.4879E-05	-2111.2	-1659.3	-1368.9	-107.51	-222.08	-30.367	479.07	4.9219E+07	1.1340E+07

APPALTATORE: <u>Consorzio</u> <u>Soci</u>   	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
PROGETTAZIONE: <u>Mandatario</u> <u>Mandanti</u>   					
PROGETTO ESECUTIVO <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 244 di 260

x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.000	5.5000	14.000	50.000	0.0000	0.0000
16	-3.2703E-03	-3.3832E-05	-2112.6	-1610.0	-1371.1	-104.80	-222.65	-29.793	334.77	4.9219E+07	1.1340E+07
x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.000	5.5000	14.000	50.000	0.0000	0.0000
17	-3.2703E-03	-3.2788E-05	-2114.0	-1560.5	-1373.4	-102.08	-223.21	-29.203	190.47	4.9219E+07	1.1340E+07
x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.000	5.5000	14.000	50.000	0.0000	0.0000
18	-3.2703E-03	-3.1747E-05	-2115.4	-1510.9	-1375.6	-99.351	-223.76	-28.597	46.178	4.9219E+07	1.1340E+07
x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.000	5.5000	14.000	50.000	0.0000	0.0000
19	-3.2703E-03	-3.0710E-05	-2116.7	-1461.2	-1377.8	-96.608	-224.30	-27.973	98.512	4.9219E+07	1.1340E+07
x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.000	5.5000	14.000	50.000	0.0000	0.0000
20	-3.6771E-03	-3.4647E-05	-2315.7	-1623.6	-1503.4	-103.56	-240.14	-30.869	581.97	4.9219E+07	1.1340E+07
x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.500	5.5000	14.000	50.000	0.0000	0.0000
21	-3.6771E-03	-3.3626E-05	-2317.1	-1575.0	-1505.5	-100.89	-240.65	-30.382	726.85	4.9219E+07	1.1340E+07
x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.000	5.5000	14.000	50.000	0.0000	0.0000
22	-3.6771E-03	-3.2609E-05	-2318.5	-1526.2	-1507.5	-98.221	-241.15	-29.884	871.73	4.9219E+07	1.1340E+07
x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.500	5.5000	14.000	50.000	0.0000	0.0000
23	-3.6771E-03	-3.1594E-05	-2319.9	-1477.3	-1509.5	-95.551	-241.63	-29.375	1016.6	4.9219E+07	1.1340E+07
x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.000	5.5000	14.000	50.000	0.0000	0.0000
24	-3.6771E-03	-3.0581E-05	-2321.3	-1428.3	-1511.5	-92.911	-242.11	-28.853	1161.5	4.9219E+07	1.1340E+07
x( M)	0.0000	13.500	10.000	0.0000	0.0000	11.000	5.5000	14.000	50.000	0.0000	0.0000
25	-2.6299E-03	-1.4919E-05	-3941.1	-1314.6	-1990.7	-218.51	-1196.3	-82.949	147.40	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
26	-2.6299E-03	-1.4243E-05	-3941.5	-1246.5	-1993.0	-208.41	-1197.2	-79.106	46.300	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
27	-2.6299E-03	-1.3568E-05	-3941.9	-1178.2	-1995.2	-198.32	-1198.1	-75.265	241.27	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
28	-2.6299E-03	-1.2891E-05	-3942.2	-1109.7	-1997.4	-188.22	-1198.9	-71.424	436.25	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
29	-2.6299E-03	-1.2214E-05	-3942.6	-1041.1	-1999.4	-178.13	-1199.6	-67.585	631.22	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
30	-2.7532E-03	-1.4772E-05	-4111.3	-1305.3	-2073.9	-217.47	-1235.2	-82.613	284.58	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
31	-2.7532E-03	-1.4104E-05	-4111.8	-1237.4	-2076.1	-207.44	-1236.1	-78.792	479.55	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
32	-2.7532E-03	-1.3436E-05	-4112.2	-1169.5	-2078.2	-197.40	-1236.9	-74.971	674.52	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
33	-2.7532E-03	-1.2768E-05	-4112.6	-1101.4	-2080.2	-187.37	-1237.6	-71.151	869.50	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
34	-2.7532E-03	-1.2099E-05	-4113.0	-1033.1	-2082.2	-177.34	-1238.3	-67.332	1064.5	4.9219E+07	1.1340E+07
x( M)	0.0000	10.000	7.9200	0.0000	0.0000	9.0000	7.2000	10.440	36.000	0.0000	0.0000
Min. Pile N.	-3.6771E-03	-4.1645E-05	-4113.0	-4270.8	-2082.2	-240.11	-1238.3	-82.949	46.178	1.1340E+07	1.1340E+07
	20	7	34	7	34	7	34	25	18	1	15

\* MAXIMUM VALUES AND LOCATIONS \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2	FLEX. RIG. z-DIR KN- M**2	FLEX. RIG. y-DIR KN- M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
1	6.1189E-05	2.3817E-03	2815.7	1598.4	180.70	972.49	42.025	159.47	8523.0	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	10.000	0.0000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
2	5.9983E-05	2.3817E-03	2768.2	1599.8	177.86	975.45	41.580	160.23	8237.8	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
3	5.8808E-05	2.3817E-03	2721.8	1601.2	175.09	978.35	41.142	160.98	7959.7	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
4	5.7634E-05	2.3817E-03	2675.2	1602.6	172.30	981.26	40.699	161.74	7782.6	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
5	5.6461E-05	2.3817E-03	2628.4	1604.0	169.50	984.19	40.252	162.49	7825.5	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	10.000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
6	5.5289E-05	2.3817E-03	2581.4	1605.5	166.69	987.12	39.801	163.26	7868.3	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
7	5.4087E-05	2.3817E-03	2533.0	1607.4	163.79	990.15	39.332	164.04	7912.0	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
8	6.2905E-05	2.0493E-03	2856.7	1408.8	187.50	838.51	42.402	139.25	9287.8	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
9	6.1645E-05	2.0493E-03	2809.3	1410.7	184.59	841.42	41.928	140.02	9000.5	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
10	6.0418E-05	2.0493E-03	2763.0	1412.6	181.74	844.27	41.462	140.77	8720.3	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
11	5.9191E-05	2.0493E-03	2716.4	1414.4	178.88	847.15	40.990	141.53	8439.8	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
12	5.7966E-05	2.0493E-03	2669.7	1416.3	176.01	850.04	40.512	142.29	8159.0	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.500	5.5000	0.0000	0.0000	0.0000
13	5.6741E-05	2.0493E-03	2622.8	1418.1	173.12	852.94	40.048	143.06	7878.0	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.000	5.5000	0.0000	0.0000	0.0000
14	5.5486E-05	2.0493E-03	2574.4	1420.0	170.14	855.94	39.618	143.86	7589.3	1.1340E+07	4.9219E+07
x( M)	13.000	0.0000	0.0000	9.5000	11.000	0.0000	13.000	5.5000	0.0000	0.0000	0.0000
15	5.4999E-05	2.3387E-03	6113.5	588.53	310.90	496.78	116.16	112.20	6387.1	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
16	5.5146E-05	2.2771E-03	6120.0	573.32	311.30	483.24	116.15	109.33	6144.1	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
17	5.5295E-05	2.2155E-03	6126.4	558.07	311.69	469.63	116.15	106.45	5902.2	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
18	5.5446E-05	2.1539E-03	6132.7	542.77	312.08	455.95	116.15	103.55	5661.5	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
19	5.5599E-05	2.0923E-03	6139.0	527.43	312.47	442.21	116.16	100.62	5618.7	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
20	5.9622E-05	2.3387E-03	6818.3	574.61	339.85	481.52	137.95	107.71	6714.5	4.9219E+07	1.1340E+07

<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  		<b>RADDOPPIO TRATTA APICE – ORSARA I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		<b>COMMESSA</b> <b>IF1N</b>	<b>LOTTO</b> <b>01 E ZZ</b>	<b>CODIFICA</b> <b>RG</b>	<b>DOCUMENTO</b> <b>MD0000 001</b>	<b>REV.</b> <b>B</b>	<b>FOGLIO</b> <b>245 di 260</b>

x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
21	5.9800E-05	2.2771E-03	6824.3	559.73	340.32	468.23	137.98	104.91	6767.8	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
22	5.9980E-05	2.2155E-03	6830.3	544.80	340.79	454.88	138.02	102.09	6822.4	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
23	6.0162E-05	2.1539E-03	6836.2	529.84	341.26	441.48	138.06	99.258	6878.3	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
24	6.0346E-05	2.0923E-03	6842.0	514.84	341.74	428.02	138.11	96.406	6935.7	4.9219E+07	1.1340E+07
x( M)	17.000	0.0000	0.0000	7.5000	14.500	0.0000	21.500	4.5000	0.0000	0.0000	0.0000
25	4.2714E-05	1.4697E-03	7735.8	626.77	1017.9	466.01	278.18	288.15	6159.0	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
26	4.2722E-05	1.4081E-03	7740.3	598.11	1018.0	444.37	278.20	274.06	5952.4	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
27	4.2730E-05	1.3465E-03	7744.7	569.45	1018.2	422.64	278.21	259.98	6045.4	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
28	4.2738E-05	1.2849E-03	7748.9	540.79	1018.3	400.80	278.22	245.91	6142.3	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
29	4.2745E-05	1.2233E-03	7753.0	512.14	1018.4	378.86	278.23	231.83	6243.4	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
30	4.4467E-05	1.4697E-03	8105.5	624.75	1061.6	460.76	290.64	285.18	6469.3	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
31	4.4476E-05	1.4081E-03	8109.8	596.20	1061.7	439.29	290.66	271.25	6562.9	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
32	4.4485E-05	1.3465E-03	8114.0	567.65	1061.8	417.71	290.68	257.32	6660.2	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
33	4.4493E-05	1.2849E-03	8118.1	539.11	1062.0	396.05	290.70	243.40	6761.4	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
34	4.4501E-05	1.2233E-03	8122.0	510.56	1062.1	374.29	290.71	229.48	6866.7	4.9219E+07	1.1340E+07
x( M)	11.880	0.0000	0.0000	7.2000	10.080	0.0000	12.240	7.2000	0.0000	0.0000	0.0000
Max.	6.2905E-05	2.3817E-03	8122.0	1607.4	1062.1	990.15	290.71	288.15	9287.8	4.9219E+07	4.9219E+07
Pile N.	8	1	34	7	34	7	34	25	8	15	1

\*\*\*\*\* SUMMARY FOR LOAD CASES AND COMBINATIONS \*\*\*\*\*

\*\*\*\*\* LOAD CASES RESULTS \*\*\*\*\*

LOAD CASE : 1

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
62526.2	-43905.2	1216.58	464.137	11119.4	-3.23922E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
5.68577E-04	-2.99118E-03	1.21688E-04	5.19776E-07	4.78111E-06	3.92286E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	2.4975E-04	-2.9957E-03	5.1998E-05	5.1978E-07	4.7811E-06	3.9229E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	8.8741E-04	-2.4406E-03	1.2541E-04	5.1978E-07	4.7811E-06	3.9229E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	733.21	-1945.1	14.223	0.2781	-238.56	-7553.1
Pile N.	7	30	34	25	7	30
MAXIMUM	3118.0	-777.57	59.359	0.4223	-33.209	-2607.7
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	2.4975E-04	-2.9957E-03	5.1998E-05	5.1978E-07	4.7811E-06	3.9229E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	8.8741E-04	-2.4406E-03	1.2541E-04	5.1978E-07	4.7811E-06	3.9229E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	733.21	-1945.1	14.223	0.2781	-238.56	-7553.1
Pile N.	7	30	34	25	7	30
MAXIMUM	3118.0	-777.57	59.359	0.4223	-33.209	-2607.7
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL.	DISPL.	MOMENT	MOMENT	SHEAR	SHEAR	SOIL REACT	SOIL REACT	TOTAL
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## APPALTATORE:

Consorzio

Soci



## ITINERARIO NAPOLI – BARI

## PROGETTAZIONE:

Mandataria

Mandanti

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

## PROGETTO ESECUTIVO

## RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA  
IF1NLOTTO  
01 E ZZCODIFICA  
RGDOCUMENTO  
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	y-DIR M	z-DIR M	z-DIR KN- M	y-DIR KN- M	y-DIR KN	z-DIR KN	y-DIR KN/ M	z-DIR KN/ M	STRESS KN/ M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Min.	-2.9957E-03	-2.4702E-06	-3724.4	-238.56	-1945.1	-18.318	-1163.7	-4.1961	244.40
Pile N.	20	7	34	7	30	7	30	1	7
Max.	6.0587E-05	1.2540E-04	7553.1	108.77	962.09	59.360	262.45	14.672	7966.0
Pile N.	8	1	30	7	34	7	34	7	8

LOAD CASE : 2

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
62421.1	-49592.3	1216.58	410.415	11119.4	-2.93905E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
5.67622E-04	-3.75813E-03	1.27876E-04	4.87543E-07	4.85188E-06	6.52024E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
*****	*****	*****	*****	*****	*****	*****
MINIMUM	6.2513E-05	-3.7624E-03	5.7366E-05	4.8754E-07	4.8519E-06	6.5202E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.0727E-03	-2.8440E-03	1.3136E-04	4.8754E-07	4.8519E-06	6.5202E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
MINIMUM	183.53	-2136.8	15.516	0.2608	-240.52	-8255.3
Pile N.	7	30	34	25	7	30
MAXIMUM	3658.8	-901.34	58.491	0.3961	-37.889	-3059.6
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
MINIMUM	6.2513E-05	-3.7624E-03	5.7366E-05	4.8754E-07	4.8519E-06	6.5202E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.0727E-03	-2.8440E-03	1.3136E-04	4.8754E-07	4.8519E-06	6.5202E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
*****	*****	*****	*****	*****	*****	*****
MINIMUM	183.53	-2136.8	15.516	0.2608	-240.52	-8255.3
Pile N.	7	30	34	25	7	30
MAXIMUM	3658.8	-901.34	58.491	0.3961	-37.889	-3059.6
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR Laterally LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Min.	-3.7624E-03	-2.5416E-06	-4220.4	-240.52	-2136.8	-18.033	-1263.8	-4.1710	61.175
Pile N.	20	6	34	7	30	7	30	1	7
Max.	7.6766E-05	1.3136E-04	8255.3	109.64	1088.9	58.492	298.07	14.503	9371.9
Pile N.	8	1	30	6	34	7	34	1	8

LOAD CASE : 3

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
58405.2	-48785.2	1066.74	505.178	6644.68	-3.02856E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
5.31104E-04	-3.63197E-03	1.05618E-04	5.92238E-07	3.51408E-06	6.02373E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
*****	*****	*****	*****	*****	*****	*****
MINIMUM	7.2224E-05	-3.6372E-03	5.3282E-05	5.9224E-07	3.5141E-06	6.0237E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.8998E-04	-2.7871E-03	1.0985E-04	5.9224E-07	3.5141E-06	6.0237E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
MINIMUM	212.04	-2114.4	15.612	0.3168	-211.98	-8184.1
Pile N.	7	30	34	25	7	30

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandataria

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 247 di 260
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MAXIMUM	3396.6	-882.05	50.769	0.4811	-40.830	-2989.5
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	7.2224E-05	-3.6372E-03	5.3282E-05	5.9224E-07	3.5141E-06	6.0237E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.8998E-04	-2.7871E-03	1.0985E-04	5.9224E-07	3.5141E-06	6.0237E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	212.04	-2114.4	15.612	0.3168	-211.98	-8184.1
Pile N.	7	30	34	25	7	30
MAXIMUM	3396.6	-882.05	50.769	0.4811	-40.830	-2989.5
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-3.6372E-03	-2.1380E-06	-4155.2	-211.98	-2114.4	-15.387	-1251.2	-3.5021	70.679
Pile N.	20	7	33	7	30	7	30	7	7
Max.	7.3982E-05	1.0985E-04	8184.1	93.220	1072.6	50.770	293.48	12.279	9103.8
Pile N.	8	1	30	7	34	7	34	1	8

LOAD CASE : 4

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
63771.8	-44273.5	1650.61	832.073	18070.1	-3.28780E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
5.79904E-04	-3.01941E-03	1.71016E-04	9.35150E-07	7.19099E-06	3.91265E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	2.4248E-04	-3.0276E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.1733E-04	-2.4692E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	711.87	-1966.1	16.458	0.5003	-329.34	-7647.6
Pile N.	7	30	34	25	7	30
MAXIMUM	3185.8	-782.07	82.638	0.7597	-35.044	-2625.5
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	2.4248E-04	-3.0276E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.1733E-04	-2.4692E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	711.87	-1966.1	16.458	0.5003	-329.34	-7647.6
Pile N.	7	30	34	25	7	30
MAXIMUM	3185.8	-782.07	82.638	0.7597	-35.044	-2625.5
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-3.0276E-03	-3.4470E-06	-3767.8	-329.34	-1966.2	-25.541	-1173.6	-5.9099	237.29
Pile N.	20	7	33	7	30	7	30	1	7
Max.	6.0931E-05	1.7770E-04	7647.6	152.36	973.39	82.639	265.66	19.164	8058.9
Pile N.	8	1	30	7	34	7	34	7	8

LOAD CASE : 5

\* TABLE L \* COMPUTATION ON PILE CAP

<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>							COMMESSA <b>IF1N</b>

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
39677.2	-45937.8	1395.03	704.565	13953.0	-3.00134E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
3.60788E-04	-3.30261E-03	1.44712E-04	8.06844E-07	5.80285E-06	5.18856E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	-5.6733E-05	-3.3097E-03	5.9196E-05	8.0684E-07	5.8028E-06	5.1886E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	7.7831E-04	-2.5741E-03	1.5048E-04	8.0684E-07	5.8028E-06	5.1886E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	-165.89	-1998.4	15.559	0.4316	-278.91	-7713.7
Pile N.	7	30	34	25	7	30
MAXIMUM	2572.7	-826.91	68.996	0.6555	-35.423	-2781.9
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	-5.6733E-05	-3.3097E-03	5.9196E-05	8.0684E-07	5.8028E-06	5.1886E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	7.7831E-04	-2.5741E-03	1.5048E-04	8.0684E-07	5.8028E-06	5.1886E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	-165.89	-1998.4	15.559	0.4316	-278.91	-7713.7
Pile N.	7	30	34	25	7	30
MAXIMUM	2572.7	-826.91	68.996	0.6555	-35.423	-2781.9
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-3.3097E-03	-2.9016E-06	-3882.1	-278.91	-1998.4	-21.252	-1193.5	-5.0994	5.0725
Pile N.	20	1	33	7	30	7	7	7	3
Max.	6.6580E-05	1.5048E-04	7713.7	127.60	1002.6	68.996	273.69	15.724	8341.6
Pile N.	8	1	30	7	34	7	34	7	8

LOAD CASE : 6

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
63946.6	-49223.9	1650.61	805.212	18070.1	-3.04230E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
5.81494E-04	-3.68141E-03	1.78377E-04	9.51926E-07	7.27731E-06	6.13025E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	8.4817E-05	-3.6897E-03	7.1449E-05	9.5193E-07	7.2773E-06	6.1302E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.0782E-03	-2.8207E-03	1.8518E-04	9.5193E-07	7.2773E-06	6.1302E-05
Pile N.	8	25	1	1	1	1


\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	249.01	-2134.5	17.958	0.5092	-332.50	-8268.4
Pile N.	7	30	34	25	7	30
MAXIMUM	3657.4	-889.29	81.751	0.7733	-40.385	-3017.1
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	8.4817E-05	-3.6897E-03	7.1449E-05	9.5193E-07	7.2773E-06	6.1302E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.0782E-03	-2.8207E-03	1.8518E-04	9.5193E-07	7.2773E-06	6.1302E-05
Pile N.	8	25	1	1	1	1



<b>APPALTATORE:</b> Consorzio <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   	
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	COMMESSA <b>IF1N</b> LOTTO <b>01 E ZZ</b> CODIFICA <b>RG</b> DOCUMENTO <b>MD0000 001</b> REV. <b>B</b> FOGLIO <b>249 di 260</b>

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	249.01	-2134.5	17.958	0.5092	-332.50	-8268.4
Pile N.	7	30	34	25	7	30
MAXIMUM	3657.4	-889.29	81.751	0.7733	-40.385	-3017.1
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-3.6897E-03	-3.5570E-06	-4201.1	-332.50	-2134.5	-25.293	-1261.2	-5.8139	83.002
Pile N.	20	1	34	7	30	7	30	1	7
Max.	7.4993E-05	1.8518E-04	8268.4	153.65	1084.1	81.751	296.77	19.397	9278.3
Pile N.	8	1	30	7	34	7	34	1	8

LOAD CASE : 7

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
49882.4	-44273.5	1650.61	832.073	18070.1	-3.15521E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
4.53602E-04	-3.06063E-03	1.71383E-04	9.37360E-07	7.19718E-06	4.26004E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	9.1288E-05	-3.0688E-03	6.5654E-05	9.3736E-07	7.1972E-06	4.2600E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	8.1592E-04	-2.4617E-03	1.7809E-04	9.3736E-07	7.1972E-06	4.2600E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	268.00	-1950.8	16.585	0.5014	-329.39	-7558.0
Pile N.	7	30	34	25	7	30
MAXIMUM	2759.6	-787.47	82.564	0.7615	-35.370	-2640.9
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	9.1288E-05	-3.0688E-03	6.5654E-05	9.3736E-07	7.1972E-06	4.2600E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	8.1592E-04	-2.4617E-03	1.7809E-04	9.3736E-07	7.1972E-06	4.2600E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	268.00	-1950.8	16.585	0.5014	-329.39	-7558.0
Pile N.	7	30	34	25	7	30
MAXIMUM	2759.6	-787.47	82.564	0.7615	-35.370	-2640.9
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-3.0688E-03	-3.4464E-06	-3748.7	-329.39	-1950.9	-25.502	-1167.7	-5.9348	89.335
Pile N.	20	1	33	7	30	7	30	1	7
Max.	6.1718E-05	1.7809E-04	7558.0	152.38	968.27	82.564	264.13	19.101	8001.4
Pile N.	8	1	30	7	34	7	34	7	8

LOAD CASE : 8

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
59472.2	-49223.9	1124.17	525.788	6212.90	-3.01526E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
5.40806E-04	-3.68903E-03	1.10260E-04	6.18711E-07	3.52160E-06	6.19965E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
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<b>APPALTATORE:</b> Consorzio <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>	CODIFICA <b>RG</b>	DOCUMENTO <b>MD0000 001</b>	REV. <b>B</b>	FOGLIO <b>250 di 260</b>

	*****	*****	*****	*****	*****	*****
MINIMUM	6.9288E-05	-3.6944E-03	5.7678E-05	6.1871E-07	3.5216E-06	6.1997E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.0123E-03	-2.8194E-03	1.1468E-04	6.1871E-07	3.5216E-06	6.1997E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	203.42	-2130.5	17.166	0.3310	-223.06	-8246.4
Pile N.	7	30	34	25	7	30
MAXIMUM	3471.8	-891.08	53.116	0.5026	-45.676	-3023.1
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x, RAD	ROT. y, RAD	ROT. z, RAD
MINIMUM	6.9288E-05	-3.6944E-03	5.7678E-05	6.1871E-07	3.5216E-06	6.1997E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.0123E-03	-2.8194E-03	1.1468E-04	6.1871E-07	3.5216E-06	6.1997E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	203.42	-2130.5	17.166	0.3310	-223.06	-8246.4
Pile N.	7	30	34	25	7	30
MAXIMUM	3471.8	-891.08	53.116	0.5026	-45.676	-3023.1
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR	DISPL. z-DIR	MOMENT z-DIR	MOMENT y-DIR	SHEAR y-DIR	SHEAR z-DIR	SOIL REACT y-DIR	SOIL REACT z-DIR	TOTAL STRESS
	M	M	KN- M	KN- M	KN	KN	KN/ M	KN/ M	KN/ M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Min.	-3.6944E-03	-2.2293E-06	-4195.4	-223.06	-2130.6	-16.021	-1259.6	-3.6784	67.805
Pile N.	20	7	34	7	30	7	30	1	7
Max.	7.5270E-05	1.1468E-04	8246.4	97.286	1082.6	53.116	296.34	13.052	9217.7
Pile N.	8	1	30	7	33	7	34	1	8

LOAD CASE : 9

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
63771.8	-44273.5	1650.61	832.073	18070.1	-3.28780E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X, RAD	ROT Y, RAD	ROT Z, RAD
5.79904E-04	-3.01941E-03	1.71016E-04	9.35150E-07	7.19090E-06	3.91265E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X, RAD	ROT. Y, RAD	ROT. Z, RAD
MINIMUM	2.4248E-04	-3.0276E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.1733E-04	-2.4692E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	711.87	-1966.1	16.458	0.5003	-329.34	-7647.6
Pile N.	7	30	34	25	7	30
MAXIMUM	3185.8	-782.07	82.638	0.7597	-35.044	-2625.5
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x, RAD	ROT. y, RAD	ROT. z, RAD
MINIMUM	2.4248E-04	-3.0276E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.1733E-04	-2.4692E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	711.87	-1966.1	16.458	0.5003	-329.34	-7647.6
Pile N.	7	30	34	25	7	30
MAXIMUM	3185.8	-782.07	82.638	0.7597	-35.044	-2625.5
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL.	DISPL.	MOMENT	MOMENT	SHEAR	SHEAR	SOIL REACT	SOIL REACT	TOTAL
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## APPALTATORE:

Consorzio

Soci



## ITINERARIO NAPOLI – BARI

## PROGETTAZIONE:

Mandataria

Mandanti

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

## PROGETTO ESECUTIVO

## RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF1N	01 E ZZ	RG	MD0000 001	B	251 di 260

	y-DIR M	z-DIR M	z-DIR KN- M	y-DIR KN- M	y-DIR KN	z-DIR KN	y-DIR KN/ M	z-DIR KN/ M	STRESS KN/ M**2
Min.	-3.0276E-03	-3.4470E-06	-3767.8	-329.34	-1966.2	-25.541	-1173.6	-5.9099	237.29
Pile N.	20	7	33	7	30	7	30	1	7
Max.	6.0931E-05	1.7770E-04	7647.6	152.36	973.39	82.639	265.66	19.164	8058.9
Pile N.	8	1	30	7	34	7	34	7	8

LOAD CASE : 10

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
47961.1	-48715.5	1216.58	410.415	11119.4	-2.84919E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
4.36109E-04	-3.68096E-03	1.27221E-04	4.84514E-07	4.84826E-06	6.47617E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	-6.5820E-05	-3.6852E-03	5.6778E-05	4.8451E-07	4.8483E-06	6.4762E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.3804E-04	-2.7730E-03	1.3069E-04	4.8451E-07	4.8483E-06	6.4762E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	-192.46	-2091.5	15.427	0.2592	-240.10	-8053.8
Pile N.	7	30	34	25	7	30
MAXIMUM	3130.0	-887.81	58.535	0.3936	-37.451	-3005.4
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	-6.5820E-05	-3.6852E-03	5.6778E-05	4.8451E-07	4.8483E-06	6.4762E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.3804E-04	-2.7730E-03	1.3069E-04	4.8451E-07	4.8483E-06	6.4762E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	-192.46	-2091.5	15.427	0.2592	-240.10	-8053.8
Pile N.	7	30	34	25	7	30
MAXIMUM	3130.0	-887.81	58.535	0.3936	-37.451	-3005.4
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR Laterally LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-3.6852E-03	-2.5340E-06	-4124.7	-240.10	-2091.5	-18.055	-1241.9	-4.1230	1.2097
Pile N.	20	6	34	7	30	7	30	1	2
Max.	7.4946E-05	1.3069E-04	8053.8	109.48	1064.8	58.535	291.15	14.222	9092.9
Pile N.	8	1	30	7	34	7	34	1	8

LOAD CASE : 11

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
62043.3	-44641.8	1248.82	175.661	13912.8	-3.14269E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
5.64186E-04	-3.10694E-03	1.30423E-04	2.01943E-07	5.50580E-06	4.40789E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	2.0487E-04	-3.1087E-03	5.2271E-05	2.0194E-07	5.5058E-06	4.4079E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.2351E-04	-2.4893E-03	1.3187E-04	2.0194E-07	5.5058E-06	4.4079E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	601.45	-1962.3	13.423	0.1080	-240.42	-7600.6
Pile N.	7	30	34	25	7	30

<b>APPALTATORE:</b> Consorzio <span style="float: right;">Soci</span>   		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>
<b>PROGETTAZIONE:</b> Mandataria <span style="float: right;">Mandanti</span>   		
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		

MAXIMUM	3209.8	-796.52	60.485	0.1641	-29.356	-2674.9
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	2.0487E-04	-3.1087E-03	5.2271E-05	2.0194E-07	5.5058E-06	4.4079E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.2351E-04	-2.4893E-03	1.3187E-04	2.0194E-07	5.5058E-06	4.4079E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	601.45	-1962.3	13.423	0.1080	-240.42	-7600.6
Pile N.	7	30	34	25	7	30
MAXIMUM	3209.8	-796.52	60.485	0.1641	-29.356	-2674.9
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-3.1087E-03	-2.5740E-06	-3778.3	-240.42	-1962.3	-18.895	-1173.7	-4.4038	200.48
Pile N.	20	7	33	7	30	7	30	1	7
Max.	6.2764E-05	1.3187E-04	7600.6	112.75	975.94	60.485	266.28	14.503	8172.9
Pile N.	8	1	30	7	34	7	34	7	8

LOAD CASE : 12

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
63771.8	-44273.5	1650.61	832.073	18070.1	-3.28780E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
5.79904E-04	-3.01941E-03	1.71016E-04	9.35150E-07	7.19090E-06	3.91265E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	2.4248E-04	-3.0276E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.1733E-04	-2.4692E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	711.87	-1966.1	16.458	0.5003	-329.34	-7647.6
Pile N.	7	30	34	25	7	30
MAXIMUM	3185.8	-782.07	82.638	0.7597	-35.044	-2625.5
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	2.4248E-04	-3.0276E-03	6.5387E-05	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	9.1733E-04	-2.4692E-03	1.7770E-04	9.3515E-07	7.1909E-06	3.9126E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*



	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	711.87	-1966.1	16.458	0.5003	-329.34	-7647.6
Pile N.	7	30	34	25	7	30
MAXIMUM	3185.8	-782.07	82.638	0.7597	-35.044	-2625.5
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-3.0276E-03	-3.4470E-06	-3767.8	-329.34	-1966.2	-25.541	-1173.6	-5.9099	237.29
Pile N.	20	7	33	7	30	7	30	1	7
Max.	6.0931E-05	1.7770E-04	7647.6	152.36	973.39	82.639	265.66	19.164	8058.9
Pile N.	8	1	30	7	34	7	34	7	8

LOAD CASE : 13

\* TABLE L \* COMPUTATION ON PILE CAP

<b>APPALTATORE:</b> Consorzio  Soci  		<b>ITINERARIO NAPOLI – BARI</b>					
<b>PROGETTAZIONE:</b> Mandataria  Mandanti  		<b>RADDOPPIO TRATTA APICE – ORSARA I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>	CODIFICA <b>RG</b>	DOCUMENTO <b>MD0000 001</b>	REV. <b>B</b>	FOGLIO <b>253 di 260</b>

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
38319.6	-28992.4	123.441	20.5255	1465.23	-3.44564E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
3.48457E-04	-1.29926E-03	1.06957E-05	1.81447E-08	5.33811E-07	-1.15072E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	2.6190E-04	-1.4604E-03	3.1262E-06	1.8145E-08	5.3381E-07	-1.1507E-05
Pile N.	14	30	29	1	1	1
MAXIMUM	4.3501E-04	-1.2991E-03	1.0825E-05	1.8145E-08	5.3381E-07	-1.1507E-05
Pile N.	1	15	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	768.89	-1405.5	0.6837	9.7067E-03	-22.827	-5503.4
Pile N.	14	33	34	25	4	30
MAXIMUM	1623.3	-466.64	6.3500	0.014741	-0.7901	-1503.9
Pile N.	30	7	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	2.6190E-04	-1.4604E-03	3.1262E-06	1.8145E-08	5.3381E-07	-1.1507E-05
Pile N.	14	30	29	1	1	1
MAXIMUM	4.3501E-04	-1.2991E-03	1.0825E-05	1.8145E-08	5.3381E-07	-1.1507E-05
Pile N.	1	15	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	768.89	-1405.5	0.6837	9.7067E-03	-22.827	-5503.4
Pile N.	14	33	34	25	4	30
MAXIMUM	1623.3	-466.64	6.3500	0.014741	-0.7901	-1503.9
Pile N.	30	7	7	1	34	7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-1.4604E-03	-2.2668E-07	-2414.3	-22.827	-1405.5	-1.9742	-881.55	-0.4210	256.30
Pile N.	30	2	30	4	32	2	31	1	14
Max.	2.9310E-05	1.0825E-05	5503.4	11.002	621.58	6.3501	169.02	1.4277	4508.8
Pile N.	20	1	30	1	30	7	30	4	1

LOAD CASE : 14

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
38265.0	-66445.6	123.441	99.6108	1465.23	-2.30459E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
3.47500E-04	-6.17582E-03	1.53808E-05	1.37836E-07	5.92174E-07	1.39285E-04

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	-6.5314E-04	-6.1770E-03	6.3598E-06	1.3784E-07	5.9217E-07	1.3929E-04
Pile N.	7	20	29	1	1	1
MAXIMUM	1.3481E-03	-4.2255E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	-1909.8	-2794.2	1.4810	0.073736	-26.426	-1.0824E+04
Pile N.	7	30	34	25	7	30
MAXIMUM	4275.2	-1238.6	6.1368	0.1120	-3.5910	-4358.2
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	-6.5314E-04	-6.1770E-03	6.3598E-06	1.3784E-07	5.9217E-07	1.3929E-04
Pile N.	7	20	29	1	1	1
MAXIMUM	1.3481E-03	-4.2255E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
Pile N.	8	25	1	1	1	1

APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandataria

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 254 di 260
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\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	-1909.8	-2794.2	1.4810	0.073736	-26.426	-1.0824E+04
Pile N.	7	30	34	25	7	30
MAXIMUM	4275.2	-1238.6	6.1368	0.1120	-3.5910	-4358.2
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-6.1770E-03	-3.0839E-07	-5867.7	-26.426	-2794.1	-1.8688	-1589.0	-0.4419	16.008
Pile N.	20	7	34	7	30	6	30	1	21
Max.	1.2138E-04	1.6366E-05	1.0824E+04	11.996	1511.6	6.1365	413.45	1.4982	1.3154E+04
Pile N.	8	1	30	6	34	7	34	7	8

LOAD CASE : 15

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
38265.0	-45761.0	-21374.3	-17796.4	-85214.6	-2.95676E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
3.47690E-04	-3.47814E-03	-2.18319E-03	-2.30564E-05	-6.08687E-05	5.57975E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	-5.3943E-04	-3.6719E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
Pile N.	1	15	1	1	1	1
MAXIMUM	1.2348E-03	-2.6279E-03	-1.2088E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
Pile N.	14	30	29	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	-1577.3	-2080.7	-979.35	-18.731	1023.8	-8114.9
Pile N.	1	29	1	1	29	29
MAXIMUM	3625.2	-742.29	-370.57	-12.334	4223.9	-2535.5
Pile N.	14	1	29	25	1	1

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	-5.3943E-04	-3.6719E-03	-2.3480E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
Pile N.	1	15	1	1	1	1
MAXIMUM	1.2348E-03	-2.6279E-03	-1.2088E-03	-2.3056E-05	-6.0869E-05	5.5798E-05
Pile N.	14	30	29	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	-1577.3	-2080.7	-979.35	-18.731	1023.8	-8114.9
Pile N.	1	29	1	1	29	29
MAXIMUM	3625.2	-742.29	-370.57	-12.334	4223.9	-2535.5
Pile N.	14	1	29	25	1	1

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-3.6719E-03	-2.3480E-03	-4109.0	-1588.9	-2080.8	-979.31	-1237.5	-285.31	36.110
Pile N.	15	1	29	1	29	1	29	30	23
Max.	6.2914E-05	4.1125E-05	8114.9	4223.9	1061.1	237.54	290.42	82.086	9270.2
Pile N.	14	1	29	1	29	1	29	30	14

LOAD CASE : 16

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
38265.0	-45761.0	21621.2	17912.4	88145.1	-2.95676E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
3.47683E-04	-3.47367E-03	2.21548E-03	2.32468E-05	6.20690E-05	5.58656E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
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APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandataria

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 255 di 260
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MINIMUM	-5.4955E-04	-3.6771E-03	1.2233E-03	2.3247E-05	6.2069E-05	5.5866E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.2449E-03	-2.6299E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	-1606.9	-2082.1	374.24	12.436	-4270.8	-8122.0
Pile N.	7	34	34	25	7	34
MAXIMUM	3654.8	-741.21	990.18	18.886	-1033.1	-2533.0
Pile N.	8	7	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	-5.4955E-04	-3.6771E-03	1.2233E-03	2.3247E-05	6.2069E-05	5.5866E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.2449E-03	-2.6299E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	-1606.9	-2082.1	374.24	12.436	-4270.8	-8122.0
Pile N.	7	34	34	25	7	34
MAXIMUM	3654.8	-741.21	990.18	18.886	-1033.1	-2533.0
Pile N.	8	7	7	1	34	7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-3.6771E-03	-4.1645E-05	-4113.0	-4270.8	-2082.2	-240.11	-1238.3	-82.949	46.178
Pile N.	20	7	34	7	34	7	34	25	18
Max.	6.2905E-05	2.3817E-03	8122.0	1607.4	1062.1	990.15	290.71	288.15	9287.8
Pile N.	8	1	34	7	34	7	34	25	8

LOAD CASE : 17

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
31812.8	-51966.4	123.441	70.5045	1450.68	-2.70216E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
2.88972E-04	-4.12299E-03	1.38284E-05	8.55219E-08	5.71865E-07	7.91829E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	-2.8177E-04	-4.1237E-03	5.3690E-06	8.5522E-08	5.7186E-07	7.9183E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	8.5972E-04	-3.0142E-03	1.4440E-05	8.5522E-08	5.7186E-07	7.9183E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	-823.92	-2205.7	1.2989	0.045751	-25.291	-8481.7
Pile N.	7	30	34	25	6	30
MAXIMUM	2805.8	-957.51	6.1699	0.069478	-2.8575	-3264.1
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	-2.8177E-04	-4.1237E-03	5.3690E-06	8.5522E-08	5.7186E-07	7.9183E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	8.5972E-04	-3.0142E-03	1.4440E-05	8.5522E-08	5.7186E-07	7.9183E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	-823.92	-2205.7	1.2989	0.045751	-25.291	-8481.7
Pile N.	7	30	34	25	6	30
MAXIMUM	2805.8	-957.51	6.1699	0.069478	-2.8575	-3264.1
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL.	DISPL.	MOMENT	MOMENT	SHEAR	SHEAR	SOIL REACT	SOIL REACT	TOTAL
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APPALTATORE:

Consorzio

Soci



ITINERARIO NAPOLI – BARI

PROGETTAZIONE:

Mandataria

Mandanti



RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA IF1N	LOTTO 01 E ZZ	CODIFICA RG	DOCUMENTO MD0000 001	REV. B	FOGLIO 256 di 260
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	y-Dir M	z-Dir M	z-Dir KN- M	y-Dir KN- M	y-Dir KN	z-Dir KN	y-Dir KN/ M	z-Dir KN/ M	STRESS KN/ M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Min.	-4.1237E-03	-2.7682E-07	-4414.7	-25.291	-2205.7	-1.9253	-1301.1	-0.4649	72.547
Pile N.	1	3	34	6	30	6	30	1	16
Max.	8.4955E-05	1.4440E-05	8481.7	11.832	1137.4	6.1697	311.75	1.6390	9704.3
Pile N.	8	1	30	7	34	7	34	1	8

LOAD CASE : 18

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
50302.3	-39793.1	123.441	49.6318	1492.26	-3.25770E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
4.57420E-04	-2.51690E-03	1.25216E-05	5.29840E-08	5.64495E-07	2.59583E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
*****	*****	*****	*****	*****	*****	*****
MINIMUM	2.6729E-04	-2.5174E-03	4.3378E-06	5.2984E-08	5.6450E-07	2.5958E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.4755E-04	-2.1533E-03	1.2900E-05	5.2984E-08	5.6450E-07	2.5958E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
MINIMUM	784.71	-1787.5	1.0362	0.028344	-24.187	-6934.1
Pile N.	7	30	34	25	7	30
MAXIMUM	2356.8	-695.44	6.2374	0.043044	-1.9087	-2307.9
Pile N.	34	14	7	1	34	14

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
*****	*****	*****	*****	*****	*****	*****
MINIMUM	2.6729E-04	-2.5174E-03	4.3378E-06	5.2984E-08	5.6450E-07	2.5958E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	6.4755E-04	-2.1533E-03	1.2900E-05	5.2984E-08	5.6450E-07	2.5958E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
*****	*****	*****	*****	*****	*****	*****
MINIMUM	784.71	-1787.5	1.0362	0.028344	-24.187	-6934.1
Pile N.	7	30	34	25	7	30
MAXIMUM	2356.8	-695.44	6.2374	0.043044	-1.9087	-2307.9
Pile N.	34	14	7	1	34	14

\* EFFECTS FOR Laterally LOADED PILE \*

PILE	DISPL. y-Dir M	DISPL. z-Dir M	MOMENT z-Dir KN- M	MOMENT y-Dir KN- M	SHEAR y-Dir KN	SHEAR z-Dir KN	SOIL REACT y-Dir KN/ M	SOIL REACT z-Dir KN/ M	TOTAL STRESS KN/ M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Min.	-2.5174E-03	-2.5537E-07	-3348.1	-24.187	-1787.5	-1.9553	-1082.9	-0.4490	261.57
Pile N.	20	1	31	7	30	6	30	1	7
Max.	5.0483E-05	1.2900E-05	6934.1	11.419	864.78	6.2375	235.16	1.4307	6900.3
Pile N.	8	1	30	3	34	7	34	1	8

LOAD CASE : 19

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
43795.5	-45761.0	21621.2	17912.4	88157.6	-3.00728E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
3.98038E-04	-3.45788E-03	2.21445E-03	2.32347E-05	6.20430E-05	5.45343E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
*****	*****	*****	*****	*****	*****	*****
MINIMUM	-4.8947E-04	-3.6612E-03	1.2227E-03	2.3235E-05	6.2043E-05	5.4534E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.2855E-03	-2.6328E-03	2.3806E-03	2.3235E-05	6.2043E-05	5.4534E-05
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
*****	*****	*****	*****	*****	*****	*****
MINIMUM	-1431.2	-2087.9	373.84	12.430	-4270.6	-8156.0
Pile N.	7	34	34	25	7	34



<b>APPALTATORE:</b> Consorzio <b>Soci</b>   		<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>					
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   							
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>		COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>	CODIFICA <b>RG</b>	DOCUMENTO <b>MD0000 001</b>	REV. <b>B</b>	FOGLIO <b>257 di 260</b>

MAXIMUM 3774.1 -739.06 990.34 18.876 -1032.2 -2527.2  
Pile N. 8 7 7 1 34 7

\* PILE TOP DISPLACEMENTS, LOCAL \*  
DISP. x, M DISP. y, M DISP. z, M ROT. x, RAD ROT. y, RAD ROT. z, RAD  
\*\*\*\*\*  
MINIMUM -4.8947E-04 -3.6612E-03 1.2227E-03 2.3235E-05 6.2043E-05 5.4534E-05  
Pile N. 7 20 29 1 1 1  
MAXIMUM 1.2855E-03 -2.6328E-03 2.3806E-03 2.3235E-05 6.2043E-05 5.4534E-05  
Pile N. 8 25 1 1 1 1

\* PILE TOP REACTIONS, LOCAL \*  
AXIAL, KN LAT. y, KN LAT. z, KN MOM x, KN- M MOM y, KN- M MOM z, KN- M  
\*\*\*\*\*  
MINIMUM -1431.2 -2087.9 373.84 12.430 -4270.6 -8156.0  
Pile N. 7 34 34 25 7 34  
MAXIMUM 3774.1 -739.06 990.34 18.876 -1032.2 -2527.2  
Pile N. 8 7 7 1 34 7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR	DISPL. z-DIR	MOMENT z-DIR	MOMENT y-DIR	SHEAR y-DIR	SHEAR z-DIR	SOIL REACT y-DIR	SOIL REACT z-DIR	TOTAL STRESS
	M	M	KN- M	KN- M	KN	KN	KN/ M	KN/ M	KN/ M**2
Min.	-3.6612E-03	-4.1651E-05	-4119.9	-4270.6	-2088.0	-240.12	-1240.6	-82.888	0.3144
Pile N.	20	7	34	7	34	7	34	25	18
Max.	6.2627E-05	2.3806E-03	8156.0	1607.1	1063.9	990.31	291.26	287.79	9312.4
Pile N.	8	1	34	7	34	7	34	25	8

LOAD CASE : 20

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*  
LOAD X, KN LOAD Y, KN LOAD Z, KN MOM X, KN- M MOM Y, KN- M MOM Z, KN- M  
38265.0 -45761.0 -21374.3 -17796.4 -85214.6 -2.95676E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*  
DISP X, M DISP Y, M DISP Z, M ROT X, RAD ROT Y, RAD ROT Z, RAD  
3.47690E-04 -3.47014E-03 -2.18319E-03 -2.30564E-05 -6.08687E-05 5.57975E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*  
DISP. X, M DISP. Y, M DISP. Z, M ROT. X, RAD ROT. Y, RAD ROT. Z, RAD  
\*\*\*\*\*  
MINIMUM -5.3943E-04 -3.6719E-03 -2.3480E-03 -2.3056E-05 -6.0869E-05 5.5798E-05  
Pile N. 1 15 1 1 1 1  
MAXIMUM 1.2348E-03 -2.6279E-03 -1.2088E-03 -2.3056E-05 -6.0869E-05 5.5798E-05  
Pile N. 14 30 29 1 1 1

\* PILE TOP REACTIONS, GLOBAL \*  
FOR. X, KN FOR. Y, KN FOR. Z, KN MOM X, KN- M MOM Y, KN- M MOM Z, KN- M  
\*\*\*\*\*  
MINIMUM -1577.3 -2080.7 -979.35 -18.731 1023.8 -8114.9  
Pile N. 1 29 1 1 29 29  
MAXIMUM 3625.2 -742.29 -370.57 -12.334 4223.9 -2535.5  
Pile N. 14 1 29 25 1 1

\* PILE TOP DISPLACEMENTS, LOCAL \*  
DISP. x, M DISP. y, M DISP. z, M ROT. x, RAD ROT. y, RAD ROT. z, RAD  
\*\*\*\*\*  
MINIMUM -5.3943E-04 -3.6719E-03 -2.3480E-03 -2.3056E-05 -6.0869E-05 5.5798E-05  
Pile N. 1 15 1 1 1 1  
MAXIMUM 1.2348E-03 -2.6279E-03 -1.2088E-03 -2.3056E-05 -6.0869E-05 5.5798E-05  
Pile N. 14 30 29 1 1 1

\* PILE TOP REACTIONS, LOCAL \*  
AXIAL, KN LAT. y, KN LAT. z, KN MOM x, KN- M MOM y, KN- M MOM z, KN- M  
\*\*\*\*\*  
MINIMUM -1577.3 -2080.7 -979.35 -18.731 1023.8 -8114.9  
Pile N. 1 29 1 1 29 29  
MAXIMUM 3625.2 -742.29 -370.57 -12.334 4223.9 -2535.5  
Pile N. 14 1 29 25 1 1

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR	DISPL. z-DIR	MOMENT z-DIR	MOMENT y-DIR	SHEAR y-DIR	SHEAR z-DIR	SOIL REACT y-DIR	SOIL REACT z-DIR	TOTAL STRESS
	M	M	KN- M	KN- M	KN	KN	KN/ M	KN/ M	KN/ M**2
Min.	-3.6719E-03	-2.3480E-03	-4109.0	-1588.9	-2080.8	-979.31	-1237.5	-285.31	36.110
Pile N.	15	1	29	1	29	1	29	30	23
Max.	6.2914E-05	4.1125E-05	8114.9	4223.9	1061.1	237.54	290.42	82.086	9270.2
Pile N.	14	1	29	1	29	1	29	30	14

LOAD CASE : 21

\* TABLE L \* COMPUTATION ON PILE CAP

<b>APPALTATORE:</b> Consorzio <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>				
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   					
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>					
COMMESSA <b>IF1N</b>	LOTTO <b>01 E ZZ</b>	CODIFICA <b>RG</b>	DOCUMENTO <b>MD0000 001</b>	REV. <b>B</b>	FOGLIO <b>258 di 260</b>

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
43850.1	-28992.4	123.441	20.5255	1477.71	-3.49617E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
3.98748E-04	-1.28522E-03	1.06985E-05	1.81139E-08	5.36344E-07	-1.27792E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	3.0307E-04	-1.4642E-03	3.0937E-06	1.8114E-08	5.3634E-07	-1.2779E-05
Pile N.	14	30	29	1	1	1
MAXIMUM	4.9442E-04	-1.2851E-03	1.0828E-05	1.8114E-08	5.3634E-07	-1.2779E-05
Pile N.	1	15	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	889.77	-1412.4	0.6655	9.6902E-03	-22.824	-5541.0
Pile N.	14	34	34	25	2	34
MAXIMUM	1848.7	-464.23	6.3590	0.014716	-0.7336	-1497.5
Pile N.	30	7	7	1	34	6

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	3.0307E-04	-1.4642E-03	3.0937E-06	1.8114E-08	5.3634E-07	-1.2779E-05
Pile N.	14	30	29	1	1	1
MAXIMUM	4.9442E-04	-1.2851E-03	1.0828E-05	1.8114E-08	5.3634E-07	-1.2779E-05
Pile N.	1	15	1	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	889.77	-1412.4	0.6655	9.6902E-03	-22.824	-5541.0
Pile N.	14	34	34	25	2	34
MAXIMUM	1848.7	-464.23	6.3590	0.014716	-0.7336	-1497.5
Pile N.	30	7	7	1	34	6

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-1.4642E-03	-2.2693E-07	-2424.1	-22.824	-1412.4	-1.9780	-884.48	-0.4212	296.59
Pile N.	30	4	30	2	33	4	33	1	14
Max.	2.9001E-05	1.0828E-05	5541.0	11.014	624.20	6.3592	169.71	1.4299	4549.5
Pile N.	20	1	34	4	30	7	30	7	1

LOAD CASE : 22

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
38265.0	-66445.6	123.441	99.6108	1465.23	-2.30459E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
3.47500E-04	-6.17582E-03	1.53808E-05	1.37836E-07	5.92174E-07	1.39285E-04

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	-6.5314E-04	-6.1770E-03	6.3598E-06	1.3784E-07	5.9217E-07	1.3929E-04
Pile N.	7	20	29	1	1	1
MAXIMUM	1.3481E-03	-4.2255E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
Pile N.	8	25	1	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	-1909.8	-2794.2	1.4810	0.073736	-26.426	-1.0824E+04
Pile N.	7	30	34	25	7	30
MAXIMUM	4275.2	-1238.6	6.1368	0.1120	-3.5910	-4358.2
Pile N.	34	14	7	1	34	7

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	-6.5314E-04	-6.1770E-03	6.3598E-06	1.3784E-07	5.9217E-07	1.3929E-04
Pile N.	7	20	29	1	1	1
MAXIMUM	1.3481E-03	-4.2255E-03	1.6366E-05	1.3784E-07	5.9217E-07	1.3929E-04
Pile N.	8	25	1	1	1	1

APPALTATORE:

Consorzio

Soci



PROGETTAZIONE:

Mandataria

Mandanti



ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA APICE – ORSARA  
I LOTTO FUNZIONALE APICE – HIRPINIA

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B

COMMESSA  
IF1N

LOTTO  
01 E ZZ

CODIFICA  
RG

DOCUMENTO  
MD0000 001

REV.  
B

FOGLIO  
259 di  
260

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	-1909.8	-2794.2	1.4810	0.073736	-26.426	-1.0824E+04
Pile N.	7	30	34	25	7	30
MAXIMUM	4275.2	-1238.6	6.1368	0.1120	-3.5910	-4358.2
Pile N.	34	14	7	1	34	7

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-6.1770E-03	-3.0839E-07	-5867.7	-26.426	-2794.1	-1.8688	-1589.0	-0.4419	16.008
Pile N.	20	7	34	7	30	6	30	1	21
Max.	1.2138E-04	1.6366E-05	1.0824E+04	11.996	1511.6	6.1365	413.45	1.4982	1.3154E+04
Pile N.	8	1	30	6	34	7	34	7	8

LOAD CASE : 23

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
43795.5	-45761.0	-21374.3	-17796.4	-85202.2	-3.00728E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
3.98045E-04	-3.45435E-03	-2.18211E-03	-2.30443E-05	-6.08371E-05	5.44659E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

	DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
MINIMUM	-4.7930E-04	-3.6560E-03	-2.3469E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
Pile N.	1	15	1	1	1	1
MAXIMUM	1.2754E-03	-2.6308E-03	-1.2083E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
Pile N.	14	30	29	1	1	1

\* PILE TOP REACTIONS, GLOBAL \*

	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
MINIMUM	-1401.5	-2086.5	-979.50	-18.721	1023.0	-8148.9
Pile N.	1	29	1	1	29	29
MAXIMUM	3744.3	-740.14	-370.19	-12.328	4223.7	-2529.6
Pile N.	14	1	29	25	1	1

\* PILE TOP DISPLACEMENTS, LOCAL \*

	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x,RAD	ROT. y,RAD	ROT. z,RAD
MINIMUM	-4.7930E-04	-3.6560E-03	-2.3469E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
Pile N.	1	15	1	1	1	1
MAXIMUM	1.2754E-03	-2.6308E-03	-1.2083E-03	-2.3044E-05	-6.0837E-05	5.4466E-05
Pile N.	14	30	29	1	1	1

\* PILE TOP REACTIONS, LOCAL \*

	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
MINIMUM	-1401.5	-2086.5	-979.50	-18.721	1023.0	-8148.9
Pile N.	1	29	1	1	29	29
MAXIMUM	3744.3	-740.14	-370.19	-12.328	4223.7	-2529.6
Pile N.	14	1	29	25	1	1

\* EFFECTS FOR LATERALLY LOADED PILE \*

PILE	DISPL. y-DIR M	DISPL. z-DIR M	MOMENT z-DIR KN- M	MOMENT y-DIR KN- M	SHEAR y-DIR KN	SHEAR z-DIR KN	SOIL REACT y-DIR KN/ M	SOIL REACT z-DIR KN/ M	TOTAL STRESS KN/ M**2
Min.	-3.6560E-03	-2.3469E-03	-4115.9	-1588.7	-2086.6	-979.47	-1239.8	-284.97	8.4295
Pile N.	15	1	29	1	29	1	30	30	4
Max.	6.2634E-05	4.1129E-05	8148.9	4223.7	1062.9	237.54	290.96	82.028	9294.8
Pile N.	14	1	29	1	29	1	29	30	14

LOAD CASE : 24

\* TABLE L \* COMPUTATION ON PILE CAP

\* EQUIVALENT CONCENTRATED LOAD AT ORIGIN \*

LOAD X, KN	LOAD Y, KN	LOAD Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
38265.0	-45761.0	21621.2	17912.4	88145.1	-2.95676E+05

\* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN \*

DISP X, M	DISP Y, M	DISP Z, M	ROT X,RAD	ROT Y,RAD	ROT Z,RAD
3.47683E-04	-3.47367E-03	2.21548E-03	2.32468E-05	6.20690E-05	5.58656E-05

\* PILE TOP DISPLACEMENTS, GLOBAL \*

DISP. X, M	DISP. Y, M	DISP. Z, M	ROT. X,RAD	ROT. Y,RAD	ROT. Z,RAD
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<b>APPALTATORE:</b> Consorzio <b>Soci</b>   	<b>ITINERARIO NAPOLI – BARI</b>  <b>RADDOPPIO TRATTA APICE – ORSARA</b> <b>I LOTTO FUNZIONALE APICE – HIRPINIA</b>
<b>PROGETTAZIONE:</b> Mandataria <b>Mandanti</b>   	
<b>PROGETTO ESECUTIVO</b> <b>RELAZIONE DI CALCOLO FONDAZIONI SPALLA A E SPALLA B</b>	COMMESSA <b>IF1N</b> LOTTO <b>01 E ZZ</b> CODIFICA <b>RG</b> DOCUMENTO <b>MD0000 001</b> REV. <b>B</b> FOGLIO <b>260 di 260</b>

	*****	*****	*****	*****	*****	*****
MINIMUM	-5.4955E-04	-3.6771E-03	1.2233E-03	2.3247E-05	6.2069E-05	5.5866E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.2449E-03	-2.6299E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
Pile N.	8	25	1	1	1	1

<b>* PILE TOP REACTIONS, GLOBAL *</b>						
	FOR. X, KN	FOR. Y, KN	FOR. Z, KN	MOM X, KN- M	MOM Y, KN- M	MOM Z, KN- M
	*****	*****	*****	*****	*****	*****
MINIMUM	-1606.9	-2082.1	374.24	12.436	-4270.8	-8122.0
Pile N.	7	34	34	25	7	34
MAXIMUM	3654.8	-741.21	990.18	18.886	-1033.1	-2533.0
Pile N.	8	7	7	1	34	7

<b>* PILE TOP DISPLACEMENTS, LOCAL *</b>						
	DISP. x, M	DISP. y, M	DISP. z, M	ROT. x, RAD	ROT. y, RAD	ROT. z, RAD
	*****	*****	*****	*****	*****	*****
MINIMUM	-5.4955E-04	-3.6771E-03	1.2233E-03	2.3247E-05	6.2069E-05	5.5866E-05
Pile N.	7	20	29	1	1	1
MAXIMUM	1.2449E-03	-2.6299E-03	2.3817E-03	2.3247E-05	6.2069E-05	5.5866E-05
Pile N.	8	25	1	1	1	1

<b>* PILE TOP REACTIONS, LOCAL *</b>						
	AXIAL, KN	LAT. y, KN	LAT. z, KN	MOM x, KN- M	MOM y, KN- M	MOM z, KN- M
	*****	*****	*****	*****	*****	*****
MINIMUM	-1606.9	-2082.1	374.24	12.436	-4270.8	-8122.0
Pile N.	7	34	34	25	7	34
MAXIMUM	3654.8	-741.21	990.18	18.886	-1033.1	-2533.0
Pile N.	8	7	7	1	34	7

**\* EFFECTS FOR LATERALLY LOADED PILE \***

PILE	DISPL. y-DIR	DISPL. z-DIR	MOMENT z-DIR	MOMENT y-DIR	SHEAR y-DIR	SHEAR z-DIR	SOIL REACT y-DIR	SOIL REACT z-DIR	TOTAL STRESS
	M	M	KN- M	KN- M	KN	KN	KN/ M	KN/ M	KN/ M**2
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Min.	-3.6771E-03	-4.1645E-05	-4113.0	-4270.8	-2082.2	-240.11	-1238.3	-82.949	46.178
Pile N.	20	7	34	7	34	7	34	25	18
Max.	6.2905E-05	2.3817E-03	8122.0	1607.4	1062.1	990.15	290.71	288.15	9287.8
Pile N.	8	1	34	7	34	7	34	25	8