

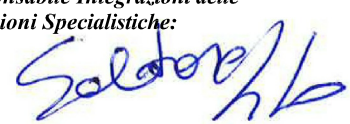


**ASSE VIARIO MARCHE-UMBRIA
E QUADRILATERO DI PENETRAZIONE INTERNA
MAXI LOTTO 2**

LAVORI DI COMPLETAMENTO DELLA DIRETTRICE PERUGIA ANCONA:
SS. 318 DI "VALFABBRICA", TRATTO PIANELLO -VALFABBRICA
SS. 76 "VAL D'ESINO", TRATTI FOSSATO VICO - CANCELLI E ALBACINA - SERRA SAN QUIRICO
"PEDEMONTANA DELLE MARCHE", TRATTO FABRIANO-MUCCIA-SFERCIA.

PROGETTO ESECUTIVO DI DETTAGLIO


<p>CONTRAENTE GENERALE:</p> 	<p><i>Il responsabile del Contraente Generale:</i></p>  Ing. Federico Montanari	<p><i>Il responsabile Integrazioni delle Prestazioni Specialistiche:</i></p>  Ing. Salvatore Lieto
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PROGETTAZIONE: Associazione Temporanea di Imprese

Mandataria: **PROGETTAZIONE GRANDI INFRASTRUTTURE PROGIN S.p.A.** Mandanti:

		
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<p>RESPONSABILE DELLA PROGETTAZIONE PER L'A.T.I.</p>  Ing. Antonio Grimaldi	
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VISTO: IL RESPONSABILE DEL PROCEDIMENTO Ing. Giulio Petrizzelli	IL COORDINATORE DELLA SICUREZZA IN FASE DI ESECUZIONE Ing. Salvatore Chirico	IL DIRETTORE DEI LAVORI Ing. Peppino Marascio
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<p>2.1.1. - PEDEMONTANA DELLE MARCHE Lotto funzionale del Sub lotto 2.1 - Tratto Fabriano - Matelica Nord OPERE D'ARTE MINORI: OPERE DI ATTRAVERSAMENTO Sistemazione viabilità interferita al km 6+168 - Tombino Ø 1500 mm a Pr. 0+256,50 RELAZIONE DI CALCOLO</p>	<p>SCALA: -</p> <p>DATA: Luglio 2018</p>
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Codice Unico di Progetto (CUP) **F12C03000050021** (Assegnato CIPE 20-04-2015)

Codice elaborato:

Opera	Tratto	Settore	CEE	WBS	Id. doc.	N. prog.	Rev.
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REV.	DATA	DESCRIZIONE	Redatto		Controllato	Approvato
A	Luglio 2018	Emissione PED	TECNOSTRUTTURE	A. TOSIANI	S. LIETO	A. GRIMALDI

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1. INTRODUZIONE

La presente relazione riporta i calcoli, e le relative verifiche, delle strutture di imbocco e sbocco del tombino circolare previsto al km. 0+256,50 della viabilità interferita, nell'ambito dei Lavori di completamento della direttrice Perugia - Ancona, Lotto della Pedemontana Marche: Tratto Fabriano - Muccia - Sfercia.

In accordo alle disposizioni dettate dalle "Norme tecniche per le costruzioni" (DM 14.09.2005), sono state effettuate le verifiche agli stati limite di esercizio (SLE) e agli stati limite ultimi (SLU).

Secondo la normativa tecnica in vigore, ai fini della zonazione sismica del territorio italiano (O.P.C.M. 20.03.2003), l'area in oggetto ricade in zona sismica di categoria 2. Pertanto, per strutture di classe 2 (vita utile di 100 anni, sisma con periodo di ritorno di 1000 anni) l'accelerazione orizzontale utilizzata, come da relazione sismica, è pari a $a_g = 0.275g$ (relazione sismica L073211E04000000REL01D par. 5) con suolo di categoria E. A tale accelerazione si è fatto riferimento nei calcoli di verifica riportati nel seguito.

Per la descrizione delle opere si faccia riferimento agli elaborati grafici di progetto da considerarsi parte integrante della presente.

In coda alla relazione è riportato, negli Allegati, il file di input e output delle analisi svolte.

1.1 IPOTESI DI CALCOLO

Per il calcolo delle strutture si è proceduto ad un'analisi con l'ausilio del programma di calcolo automatico agli elementi finiti SAP2000.

Considerata la geometria della struttura dell'imbocco, per il calcolo delle sollecitazioni si è assunto uno schema di calcolo a piastra incastrata su tre lati e libera in testa:

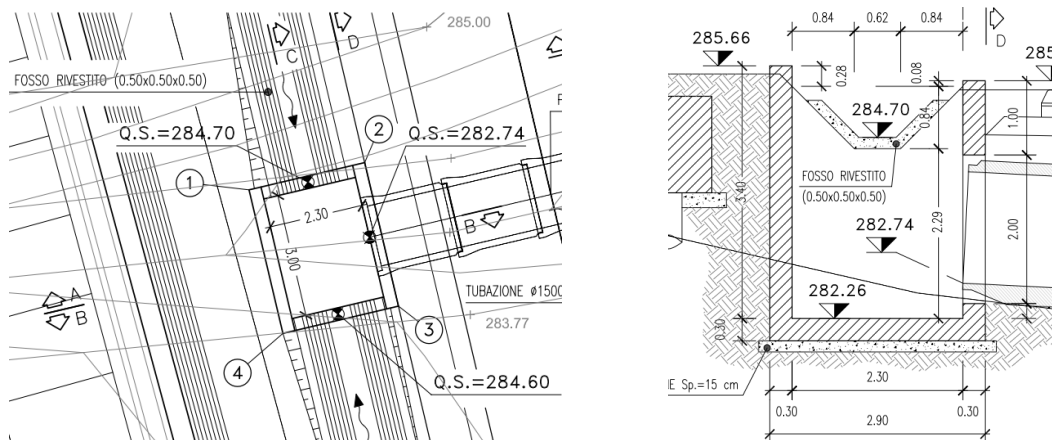


Figura 1: Pianta e sezione vasca di imbocco



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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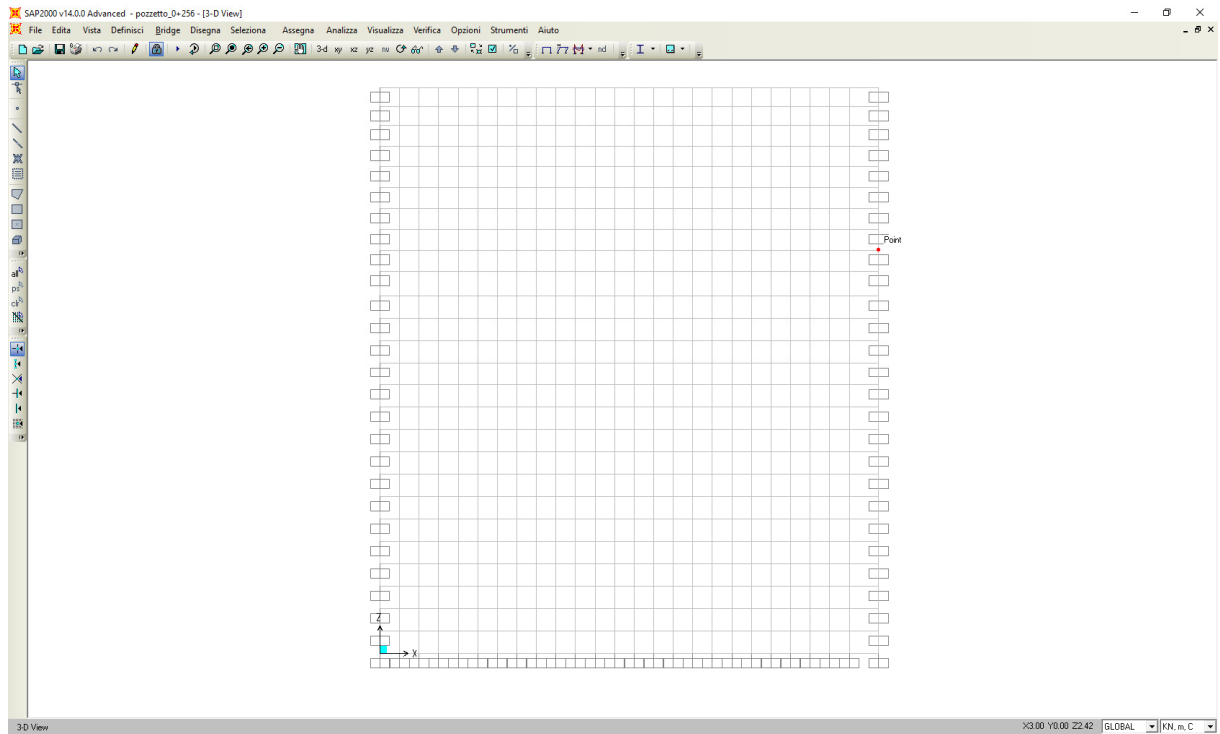


Figura 2: Modello di calcolo

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Lo sbocco è costituito da un muro di sostegno del rilevato stradale la cui altezza media dallo spiccatto è pari a 2.90 m:

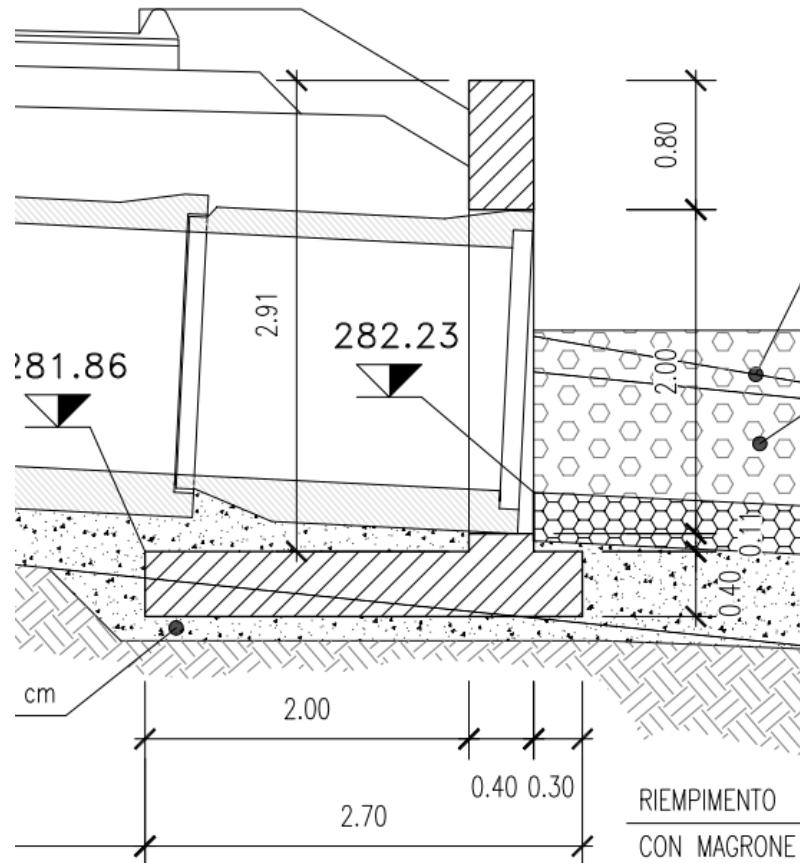


Figura 3: Sezione Muro di sostegno

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2. DOCUMENTI DI RIFERIMENTO

Nella esecuzione dei calcoli si è fatto riferimento ai seguenti documenti normativi.

2.1 NORMATIVE DI CARATTERE GENERALE

L. 05/11/1971 n. 1086: "Norme per la disciplina delle opere in conglomerato cementizio armato normale e precompresso ed a struttura metallica";

L. 02/02/1974 n. 64: "Provvedimenti per le costruzioni con particolari prescrizioni per le zone sismiche";

2.2 NORMATIVE SPECIFICHE PER LE STRUTTURE

Decreto Ministeriale 14 settembre 2005 "Norme Tecniche per le Costruzioni".

OPCM 3274 d.d. 20/03/2003: "Primi elementi in materia di criteri generali per la classificazione sismica del territorio nazionale e di normative tecniche per le costruzioni in zona sismica" e successive modifiche ed integrazioni

CNR-UNI 10011: "Costruzioni di acciaio "Istruzioni per il calcolo, l'esecuzione, il collaudo e la manutenzione".

CNR-UNI 10016:"Travi composte di acciaio e calcestruzzo - Istruzioni per l'impiego nelle costruzioni".

UNI EN 1992-2005:"Progettazione delle strutture di calcestruzzo".

UNI EN 1993-2005: "Progettazione delle strutture di acciaio".

UNI EN 1994-2005: "Progettazione delle strutture composte acciaio-calcestruzzo".

UNI EN 1997-2005: "Progettazione geotecnica".

UNI EN 1998-2005: "Progettazione delle strutture per la resistenza sismica".

UNI EN 206-1-2001: Calcestruzzo: "Specificazione, prestazione, produzione e conformità".

	2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto 2.1 Tratto Fabriano-Matelica Nord Opere d'arte minori: opere di attraversamento Sistemazione viabilità interferita al km 6+168 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo								
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3. MATERIALI

Per la realizzazione delle sottostrutture sono stati previsti i seguenti materiali.

Calcestruzzi

I materiali da utilizzare avranno le seguenti caratteristiche:

Tab.1 - FONDAZIONI ed ELEVAZIONI

		Classe di esposizione
		XA2
Classe di resistenza minima:	C_{min}	C32/40
Rapporto massimo acqua/cemento	a/max	0.5
Contenuto minimo di cemento (kg/m ³)	cem _{min}	360

Tab.2 - CALCESTRUZZO PER MAGRONE

Classe di resistenza minima:	C_{min}	C12/15
------------------------------	-----------	--------

Acciaio per armature

Tab.3 - ACCIAIO ARMATURA ORDINARIA

Acciaio in barre ad aderenza migliorata tipo B450C

controllato in stabilimento:

Tensione caratteristica di snervamento:

$$f_{yk} = 450 \text{ MPa}$$

Per la realizzazione dei calcestruzzi, al fine di assicurare i requisiti di qualità e di durabilità, si è fatto riferimento alle specifiche riportate nella norma UNI EN 206-1. pertanto sulla base delle condizioni ambientali prevedibili per le opere in oggetto si riporta nella tabella seguente, in corrispondenza di ogni elemento strutturale, la classe di esposizione, la resistenza caratteristica R_{ck} , il rapporto a/c massimo, il quantitativo di cemento minimo, e l'eventuale percentuale di aria che deve essere inglobata nel calcestruzzo.

Sono previsti inoltre copriferri pari a:

40 mm per le fondazioni e superfici controterra in genere.

Le caratteristiche meccaniche del calcestruzzo in opera sono state valutate conformemente alle specifiche previste dal Decreto Ministeriale 14 settembre 2005, pertanto nella tabella seguente vengono riportati i valori assunti per il modulo elastico e per le resistenze allo stato limite ultimo e di esercizio

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CARATTERISTICHE MECCANICHE CALCESTRUZZI				
f_{ck}/R_{ck} (Mpa)	E_c (Mpa)	S.L.U		S.L.E
		$f_{cd}=R_{ck}/\gamma_{m,c}$ (Mpa)	$f_{ctd}=f_{ctk}/\gamma_{m,c}$ (Mpa)	$\sigma_c=R_{ck}/(\gamma_{m,c}\times\gamma_{E,c})$ (Mpa)
C32/40	33000	21.05	2.45	19.2 (rara) 14.8 (quasi permanente)

Le caratteristiche meccaniche adottate per l'acciaio sono:

CARATTERISTICHE MECCANICHE ACCIAIO PER C.A.					
TIPO	E_c (Mpa)	f_{tk} (Mpa)	f_{yk} (Mpa)	S.L.U	S.L.E
				$f_{yd} = f_{yk}/\gamma_{m,s}$ (Mpa)	$\sigma_{smax}=f_{yk}/1.25$ (Mpa)
B450C	210000	540	450	391	360

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4. PARAMETRI GEOTECNICI DEL TERRENO

Nel calcolo dell'opera in oggetto, per quanto riguarda la determinazione della spinta delle terre, della capacità portante del terreno e delle caratteristiche di interazione terreno-struttura, si adottano, a favore di sicurezza, i seguenti parametri geotecnici ricavati dalla "Relazione geotecnica generale sulle opere all'aperto e gallerie artificiali (geotecnica-geomeccanica)" doc.

L0703211E02GE0000REL02M.doc, da tale relazione si ha:

Strato di rinfianco (RILEVATO)

Descrizione	Terreno di rinfianco	
Spessore dello strato	3.00	[m]
Peso di volume	20.0000	[kN/mc]
Peso di volume saturo	20.0000	[kN/mc]
Angolo di attrito (ϕ')	35.00	[°]
Angolo di attrito terreno struttura ($0.5\phi'$)	17.50	[°]
Coesione	0.000	[kPa]

Strato di base (ARE 2)

Descrizione	Terreno di base	
Peso di volume	19.5000	[kN/mc]
Peso di volume saturo	19.5000	[kN/mc]
Angolo di attrito (ϕ')	27.50	[°]
Angolo di attrito terreno-struttura ($\tan\phi'$)	27.50	[°]
Coesione	5.000	[kPa]

Per il calcolo della spinta sulla vasca si è considerato il coefficiente di spinta a riposo, k_0 . Sul muro di sostegno si adotta il coefficiente di spinta attiva k_a .

La falda non interferisce con l'opera.

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5. GEOMETRIA DELLA VASCA D' IMBOCCO

Sezione lungo l'asse della parete della vasca di imbocco:

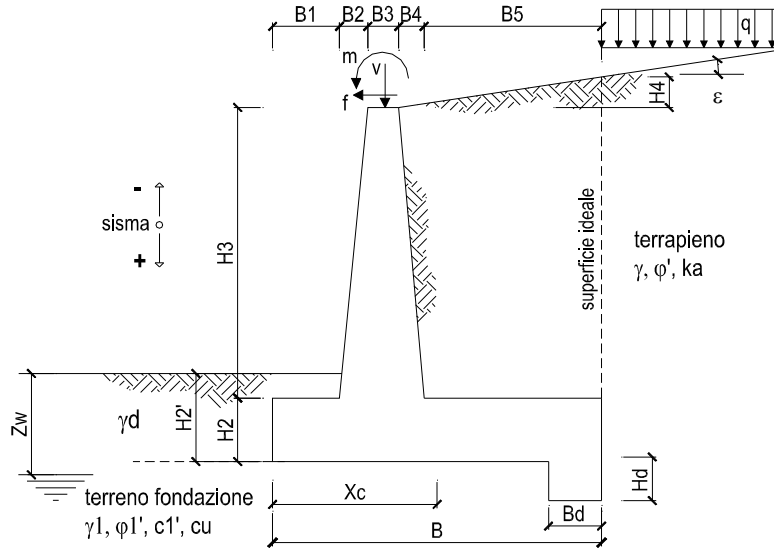


Geometria piastra

Altezza [H]	3.40	[m]
Larghezza [B]	3.00	[m]
Spessore [s]	0.30	[m]

6. GEOMETRIA DEL MURO DI SOSTEGNO

Sezione trasversale muro:



OPERA Hmuro = 2.90 m

DATI DI PROGETTO:

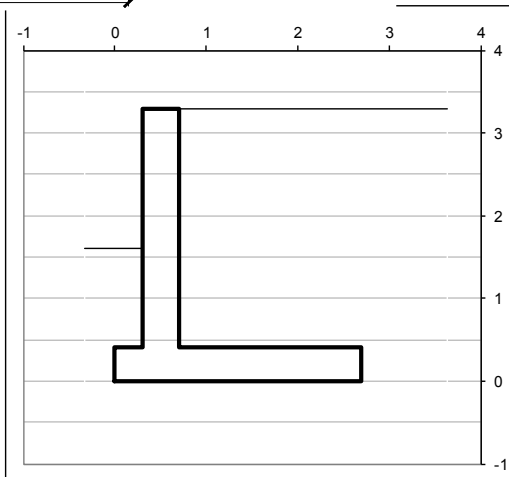
Geometria del Muro

Elevezione	H3 =	2.90	(m)
Aggetto Valle	B2 =	0.00	(m)
Spessore del Muro in Testa	B3 =	0.40	(m)
Aggetto monte	B4 =	0.00	(m)

Geometria della Fondazione

Larghezza Fondazione	B =	2.70	(m)
Spessore Fondazione	H2 =	0.40	(m)
Suola Lato Valle	B1 =	0.30	(m)
Suola Lato Monte	B5 =	2.00	(m)
Altezza dente	Hd =	0.00	(m)
Larghezza dente	Bd =	0.00	(m)
Mezzeria Sezione	Xc =	1.35	(m)

Peso Specifico del Calcestruzzo	gammacls =	25.00	(kN/m ³)
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7. CALCOLO DELLA VASCA D' IMBOCCO

7.1 AZIONE SISMICA

Le strutture, ai sensi della normativa di riferimento, sono assunte di Classe 2 (vita utile 100 anni).

Tutte le azioni sono calcolate considerando un periodo di ritorno per i fenomeni naturali pari a 1000 anni, pertanto nella valutazione della accelerazione orizzontale massima ag si è fatto riferimento alle mappe di pericolosità sismica dell'I.N.G.V. (Istituto Nazionale di Geofisica e Vulcanologia) andando a considerare il parametro ag/g riferito a una probabilità di superamento non maggiore del 5% in 50 anni, come previsto dal paragrafo 3.2.2.3 del D.M.14/09/05.

La tabella sottostante riporta i valori considerati per la zona in esame

Zona sismica	2
Categoria suolo di fondazione	E
Classe della struttura	2
Accelerazione orizzontale massima convenzionale per zona 2 e struttura di classe 2 (vedi par. 3.2.2.3)	0.275g
Fattore S che tiene conto della categoria del suolo di fondazione = E	1.25

In definitiva l'accelerazione orizzontale massima convenzionale per zona 2, struttura di classe 2 e suolo di categoria E = 0.275 g x 1.25 = 0.344 g.

Incremento sismica sul terreno

Visto la tipologia d'opera per il coefficiente di spinta si può assumere una spinta a riposo con:

$$k_0 = 1 - \sin \phi = 0.426 \quad \text{con } \phi = 35^\circ$$

Mentre l'incremento di spinta sismica del terreno si calcola con l'espressione di Wood:

$$\Delta S = ag/g * S * \gamma * H^2 = 0.275 * 1.25 * 20 * 3.40^2 = 79.48 \text{ kN}$$

Da cui:

$$P_s = \Delta S / H = 79.48 / 3.40 = 23.38 \text{ kN/m}^2$$

dove:

γ = peso di volume del terreno;

H = dislivello tra la quota del piano campagna e la quota di fondo scavo;

ΔS = incremento sismico del terreno

	2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto 2.1 Tratto Fabriano-Matelica Nord Opere d'arte minori: opere di attraversamento Sistemazione viabilità interferita al km 6+168 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo								
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Forze di inerzia sismiche

Essendo:

$$a_g/g = 0.275$$

$$S = 1.25$$

i due coefficienti sismici orizzontale e verticale da applicare sulle masse strutturali sono pari a:

$$k_h = a_g/g * S/r = 0.344$$

$$k_v = \pm 0.5 * k_h = 0.172$$

7.2 CALCOLO DELLE SPINTE STATICHE

Spinta del terreno e dell'accidentale

Sulle piastre, in esercizio, viene presa in considerazione la spinta del terreno a riposo e di un accidentale pari a 20 kN/m² dovuto al transito del veicolo stradale.

In sismica, come detto in precedenza, viene considerata la forza d'inerzia orizzontale e l'incremento di spinta sismica del terreno mentre il carico accidentale viene assunto nullo.

Spinta del terreno sui piedritti

I parametri geotecnica del terreno sono:

$$\gamma = 20 \text{ kN/m}^3$$

$$\phi = 35^\circ$$

$$K_0 = 0.426$$

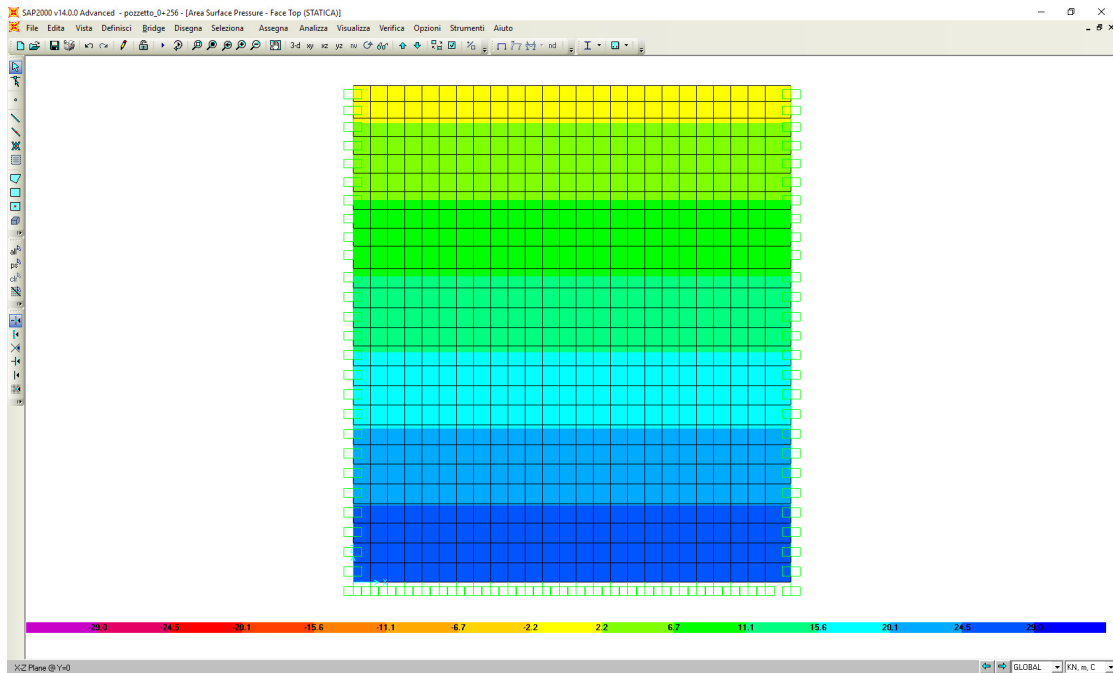
Pertanto la spinta del terreno sulle pareti è pari a:

Esercizio (solo terreno)

$$P_0 = 0.426 * 20.00 * 0.00 = 0.00 \text{ kN/m}^2$$

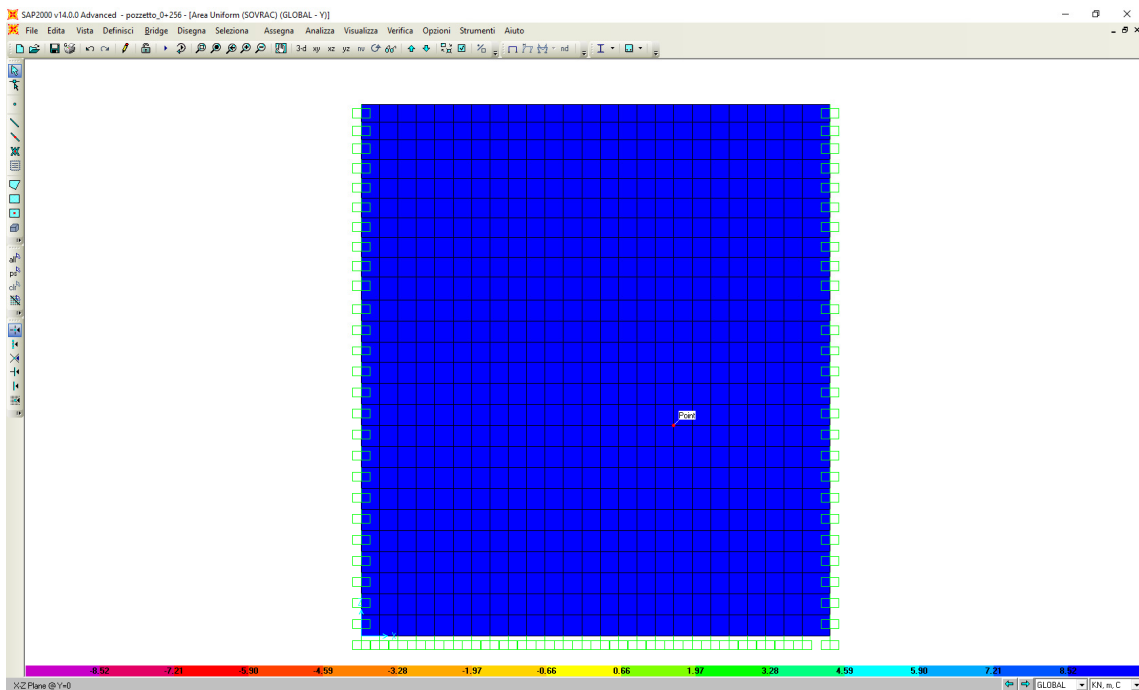
$$P_1 = 0.426 * 20.00 * 3.40 = 28.97 \text{ kN/m}^2$$

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Esercizio (solo accidentale)

Pripartito = $20 \cdot 0.426 = 8.52 \text{ kN/m}^2$



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Sismica

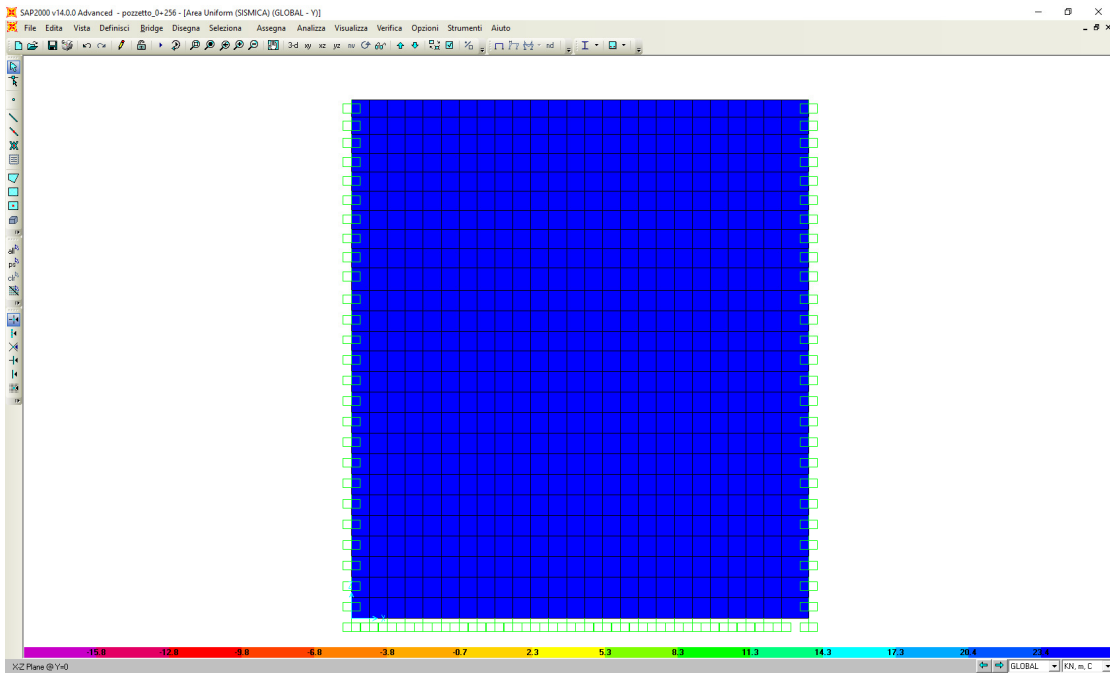
$$\Delta S = 79.48 \text{ kN/m}^2$$

- incremento di spinta del terreno

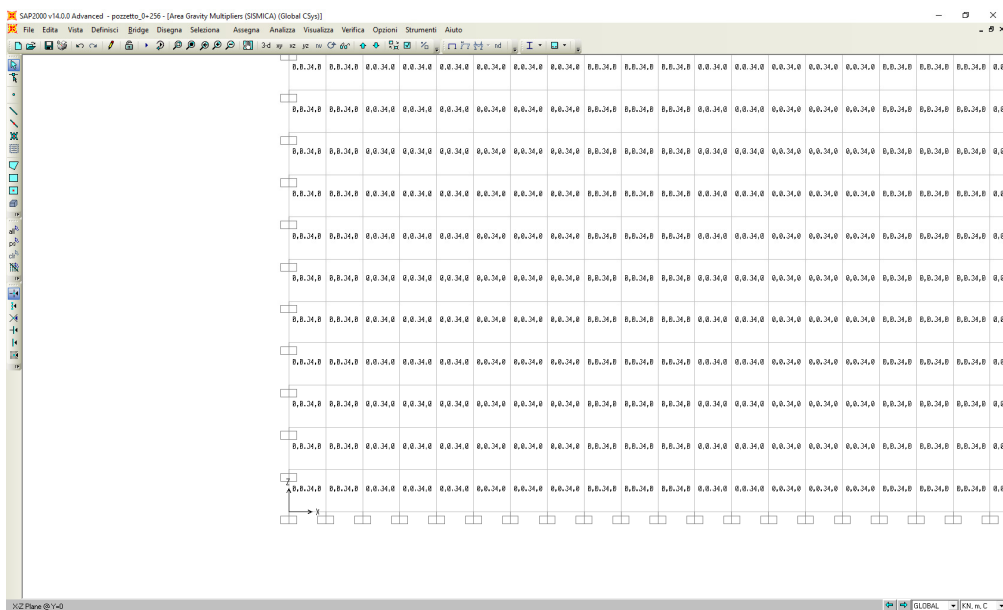
$$P_s = \Delta S/H = 79.48/3.40 = 23.38 \text{ kN/m}^2 \text{ - applicata a H/2}$$

$$F_{h, \text{orizz}} = 0.344 * W$$

-Azione inerziale su W viene calcolato automaticamente dal programma



Incremento di spinta sismica



0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344
0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344
0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344
0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344
0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344
0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344
0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344
0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344
0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344
0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344

Moltiplicatori gravitazionali per le forze inerziali

	2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto 2.1 Tratto Fabriano-Matelica Nord Opere d'arte minori: opere di attraversamento Sistemazione viabilità interferita al km 6+168 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo								
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7.3 COMBINAZIONI DI CARICO

Le combinazioni di carico, considerate ai fini delle verifiche, sono stabilite in modo da garantire la sicurezza in conformità a quanto prescritto al cap. 2 delle NT.

6.4.1 Combinazioni per la verifica allo SLU e SLE

Gli stati limite ultimi delle opere interrato si riferiscono allo sviluppo di meccanismi di collasso, determinati dalla mobilitazione della resistenza del terreno, e al raggiungimento della resistenza degli elementi strutturali che compongono l'opera.

Le verifiche agli stati limite ultimi devono essere eseguiti in riferimento ai seguenti stati limite:

- SLU di tipo geotecnico (GEO) e di equilibrio di corpo rigido (EQU)
 - collasso per carico limite dell'insieme fondazione-terreno;
- SLU di tipo strutturale (STR)
 - raggiungimento della resistenza negli elementi strutturali.

Le verifiche saranno condotte utilizzando i coefficienti parziali riportati nelle Tabelle sottostanti (vedi DM 14/09/ 2005 NTC) per i parametri geotecnici e le azioni.

1. combinazione 1 → (A1+M1+R1) → STR
2. combinazione 2 → (A2+M2+R2) → GEO (carico limite)

Tabella 6.2.II - Coefficienti parziali per i parametri del terreno

PARAMETRO	GRANDEZZA ALLA QUALE APPLICARE IL COEFF. PARZIALE	COEFFICIENTE PARZIALE γ_M	M ₁	M ₂
Tangente dell'angolo di i resistenza al taglio	$\tan \varphi'_k$	$\gamma_{\varphi'}$	1	1.25
Coesione efficace	c'_k	$\gamma_{c'}$	1	1.25
Resistenza non drenata	c'_{uk}	γ_{cu}	1	1.4
Peso dell'unità di volume	γ	γ_γ	1	1

Nella tabella 5.1.V è indicato un coefficiente maggiore di uno per gli effetti a sfavore di sicurezza e un coefficiente minore del precedente, per gli effetti a favore di sicurezza.

I coefficienti di amplificazione dei carichi γ e i coefficienti di combinazione ψ sono riportati nelle tabelle 5.1.VI.

In particolare nel calcolo della struttura in oggetto si fa riferimento alla combinazione A1 STR.

	2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto 2.1 Tratto Fabriano-Matelica Nord Opere d'arte minori: opere di attraversamento Sistemazione viabilità interferita al km 6+168 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo								
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Tabella 5.1.V – Coefficienti parziali di sicurezza per le combinazioni di carico agli SLU

		Coefficiente	EQU ⁽¹⁾	A1 STR	A2 GEO
Carichi permanenti	favorevoli	γ_{G1}	0,90	1,00	1,00
	sfavorevoli		1,10	1,35	1,00
Carichi permanenti non strutturali ⁽²⁾	favorevoli	γ_{G2}	0,00	0,00	0,00
	sfavorevoli		1,50	1,50	1,30
Carichi variabili da traffico	favorevoli	γ_Q	0,00	0,00	0,00
	sfavorevoli		1,35	1,35	1,15
Carichi variabili	favorevoli	γ_{Qi}	0,00	0,00	0,00
	sfavorevoli		1,50	1,50	1,30
Distorsioni e presollecitazioni di progetto	favorevoli	$\gamma_{\epsilon 1}$	0,90	1,00	1,00
	sfavorevoli		1,00 ⁽³⁾	1,00 ⁽⁴⁾	1,00
Ritiro e viscosità, Variazioni termiche, Cedimenti vincolari	favorevoli	$\gamma_{\epsilon 2}, \gamma_{\epsilon 3}, \gamma_{\epsilon 4}$	0,00	0,00	0,00
	sfavorevoli		1,20	1,20	1,00

⁽¹⁾ Equilibrio che non coinvolga i parametri di deformabilità e resistenza del terreno; altrimenti si applicano i valori di GEO.
⁽²⁾ Nel caso in cui i carichi permanenti non strutturali (ad es. carichi permanenti portati) siano compiutamente definiti si potranno adottare gli stessi coefficienti validi per le azioni permanenti.
⁽³⁾ 1,30 per instabilità in strutture con precompressione esterna
⁽⁴⁾ 1,20 per effetti locali

I valori del coefficiente ψ_{2i} sono quelli riportati nella tabella 5.1.VI della norma; la stessa propone nel caso di ponti, e più in generale per opere stradali, si assumere per i carichi dovuti al transito dei mezzi $\psi_{2i} = 0.0$.

Ai fini delle verifiche degli stati limite ultimi si riportano per comodità le combinazioni delle azioni riportate nella normativa sui ponti alla quale è possibile fare riferimento per la simbologia adottata:

$$\text{STR}) \Rightarrow \gamma_{G1} \cdot G_1 + \gamma_{G2} \cdot G_2 + \gamma_{Q1} \cdot Q_{k1} + \sum_i \psi_{0i} \cdot Q_{ki} \Rightarrow (\Phi_d' = \Phi_k')$$

Ai fini delle verifiche degli stati limite di esercizio (fessurazione) si definiscono le seguenti combinazioni:

$$\text{Rara}) \Rightarrow G_1 + G_2 + Q_{k1} + \sum_i \psi_{0i} \cdot Q_{ki}$$

$$\text{Frequente}) \Rightarrow G_1 + G_2 + \psi_{11} \cdot Q_{k1} + \sum_i \psi_{2i} \cdot Q_{ki}$$

$$\text{Quasi permanente}) \Rightarrow G_1 + G_2 + \psi_{21} \cdot Q_{k1} + \sum_i \psi_{2i} \cdot Q_{ki}$$

Per la condizione sismica, le combinazioni per gli stati limite ultimi da prendere in considerazione sono le seguenti:

$$\text{STR}) \Rightarrow E + G_1 + G_2 + \sum_i \psi_{2i} \cdot Q_{ki} \Rightarrow (\Phi_d' = \Phi_k')$$

Dove:

	2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto 2.1 Tratto Fabriano-Matelica Nord Opere d'arte minori: opere di attraversamento Sistemazione viabilità interferita al km 6+168 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo								
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$$E1 = \pm 1.00 \times E_Y \pm 0.30 \times E_Z \quad \text{oppure} \quad E2 = \pm 0.30 \times E_Y \pm 1.00 \times E_Z$$

Avendo indicato con E_Y e E_Z rispettivamente le componenti orizzontale e verticale dell'azione sismica. Gli effetti dell'azione sismica saranno valutati tenendo conto delle masse associate ai seguenti carichi gravitazionali:

$$G_1 + G_2 + \sum_i \psi_{2i} \cdot Q_{ki}$$

Le combinazioni di carico vengono ottenute combinando opportunamente i coefficienti innanzi detti.

6.4.2 Stato limite di apertura delle fessure

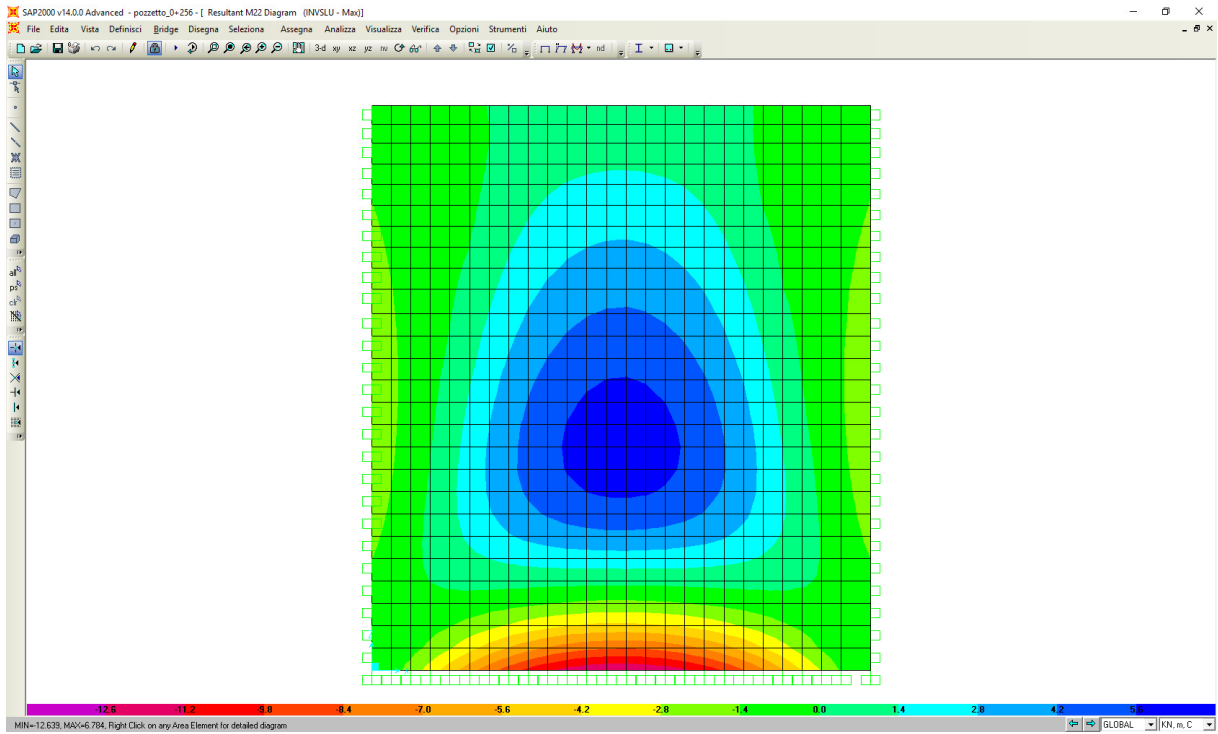
Per le verifiche a fessurazione si adotta la combinazione caratteristica FREQUENTE e QUASI PERMANENTE, così come richiesto del DM 2005 per gli SLE.

Pertanto l'apertura convenzionale delle fessure dovrà risultare:

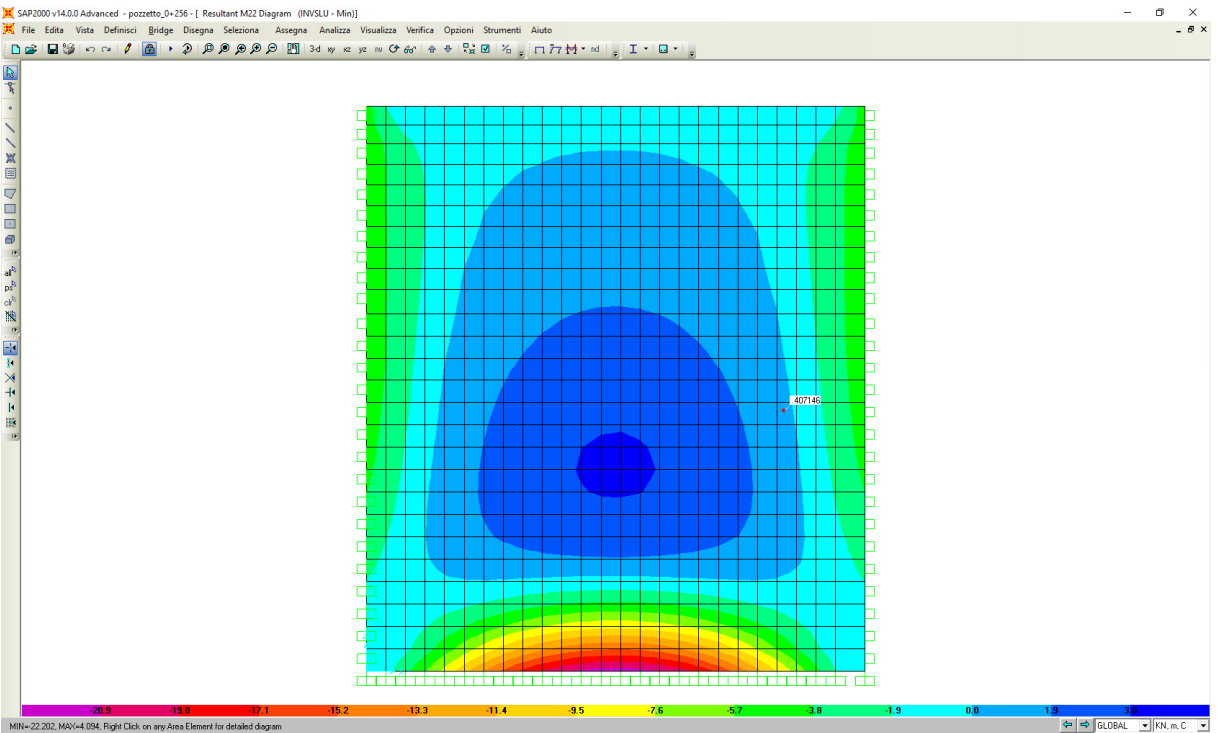
- a) $\delta_f \leq w_1 = 0.20 \text{ mm}$ per strutture in condizioni ambientali aggressive e molto aggressive, così come identificate nel DM 2005, per tutte le strutture a permanente contatto con il terreno e per le zone non ispezionabili di tutte le strutture (comb. Frequente);
- b) $\delta_f \leq w_2 = 0.30 \text{ mm}$ per strutture in condizioni ambientali ordinarie secondo il citato paragrafo del DM 2005 (comb. Quasi permanente).

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7.4 DIAGRAMMI DELLE SOLLECITAZIONI

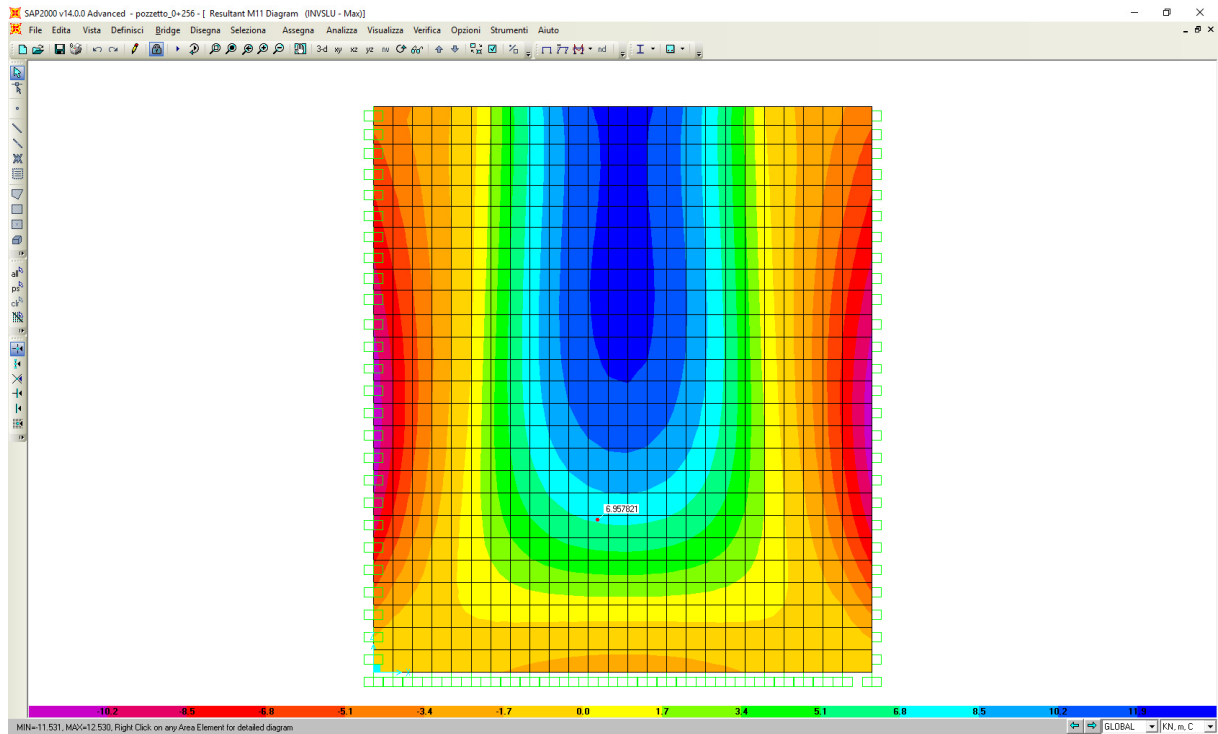


Involuppo Momenti Flettenti SLU: M22 (+)

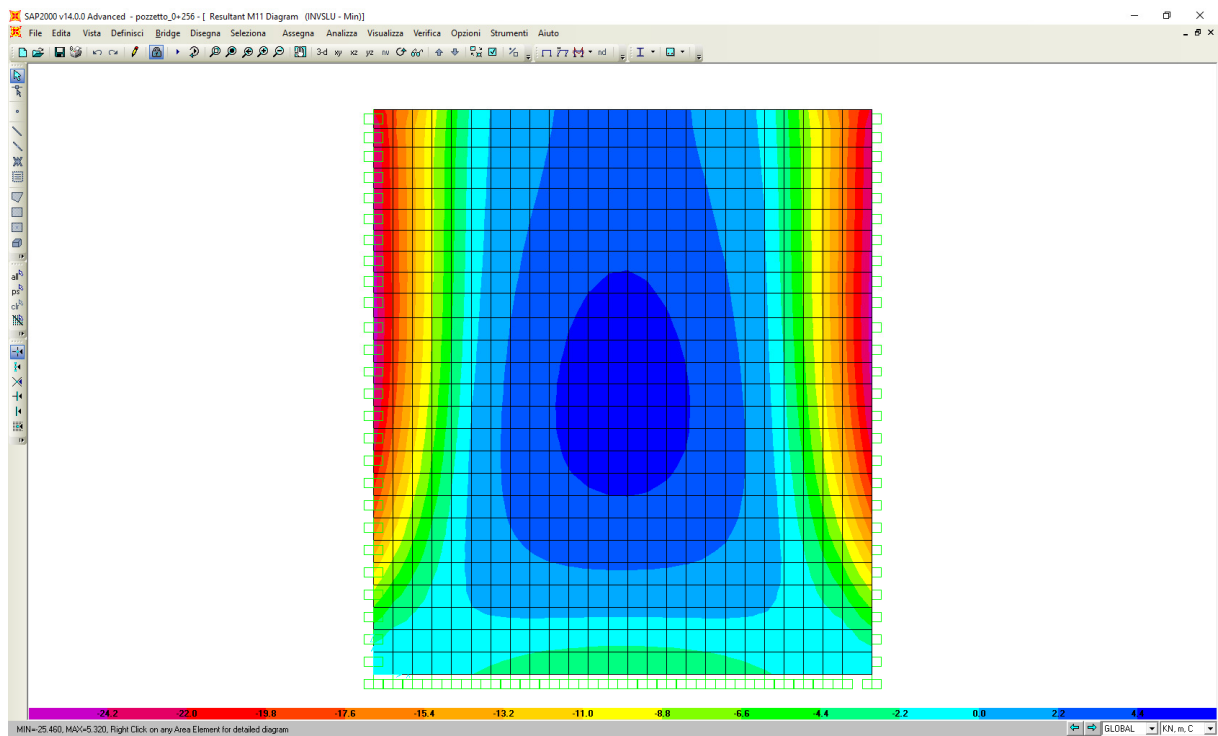


Involuppo Momenti Flettenti SLU: M22 (-)

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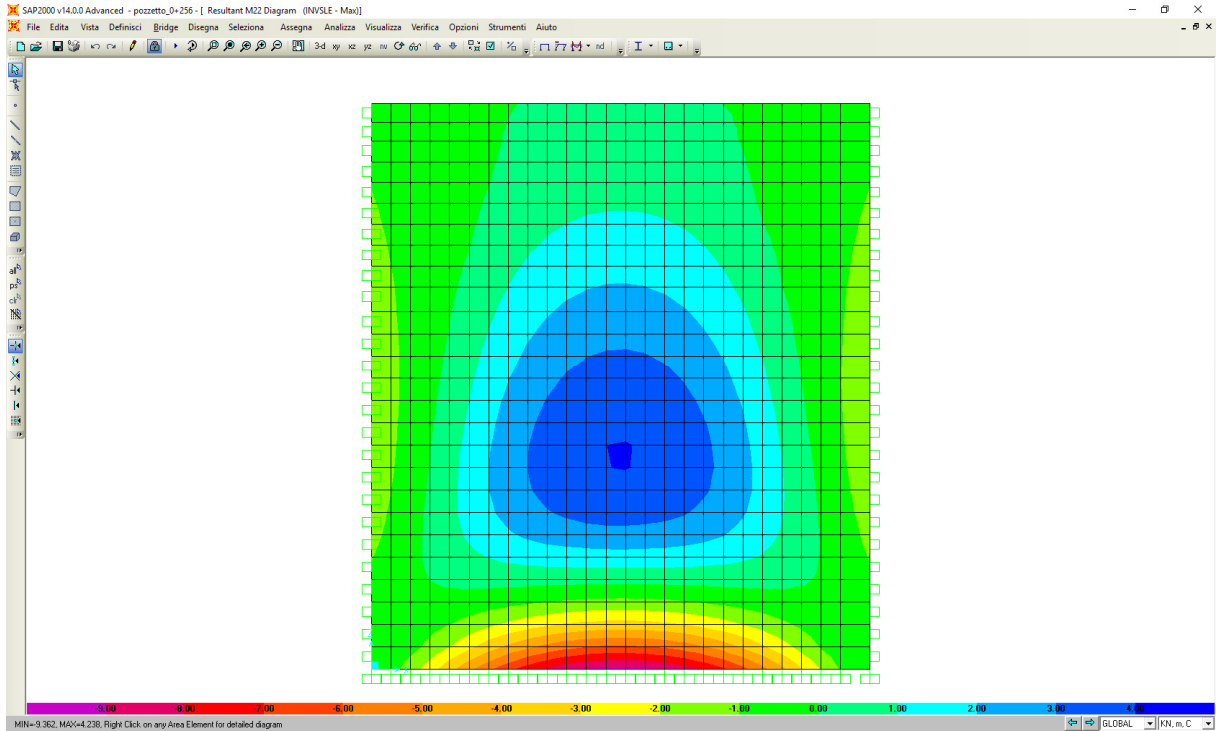


Involuppo Momenti Flettenti SLU: M11(+)

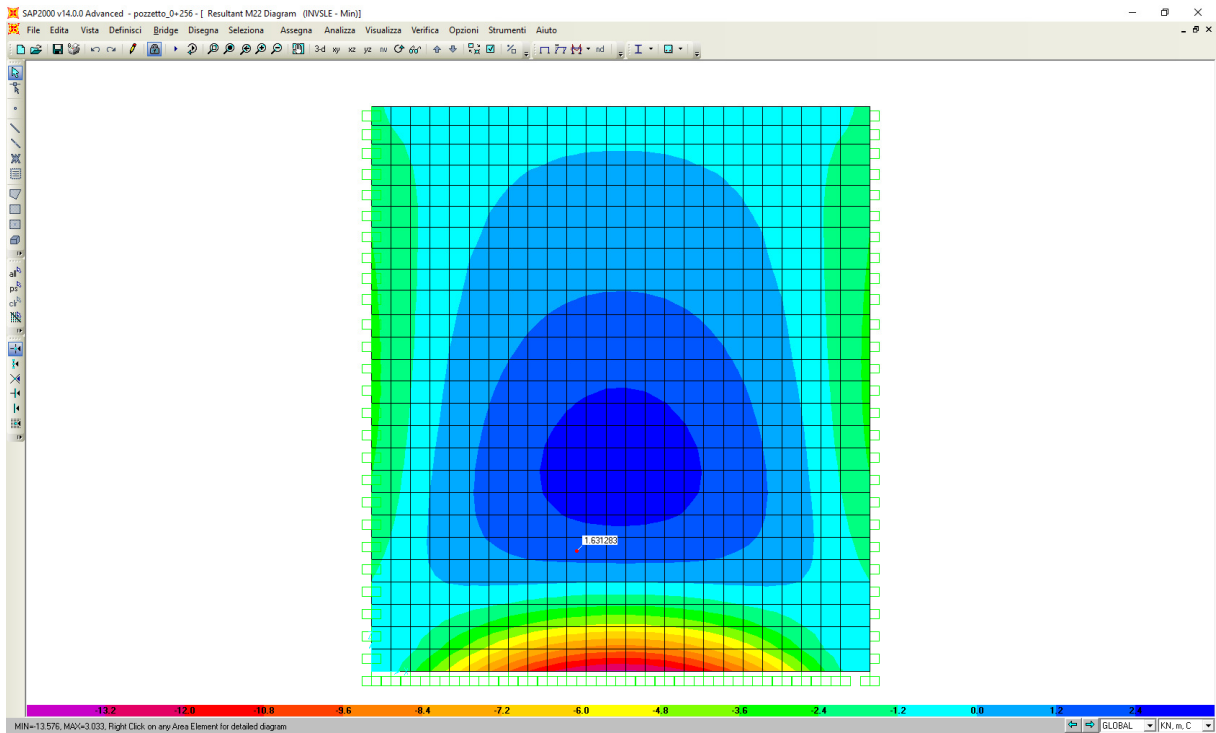


Involuppo Momenti Flettenti SLU: M11(-)

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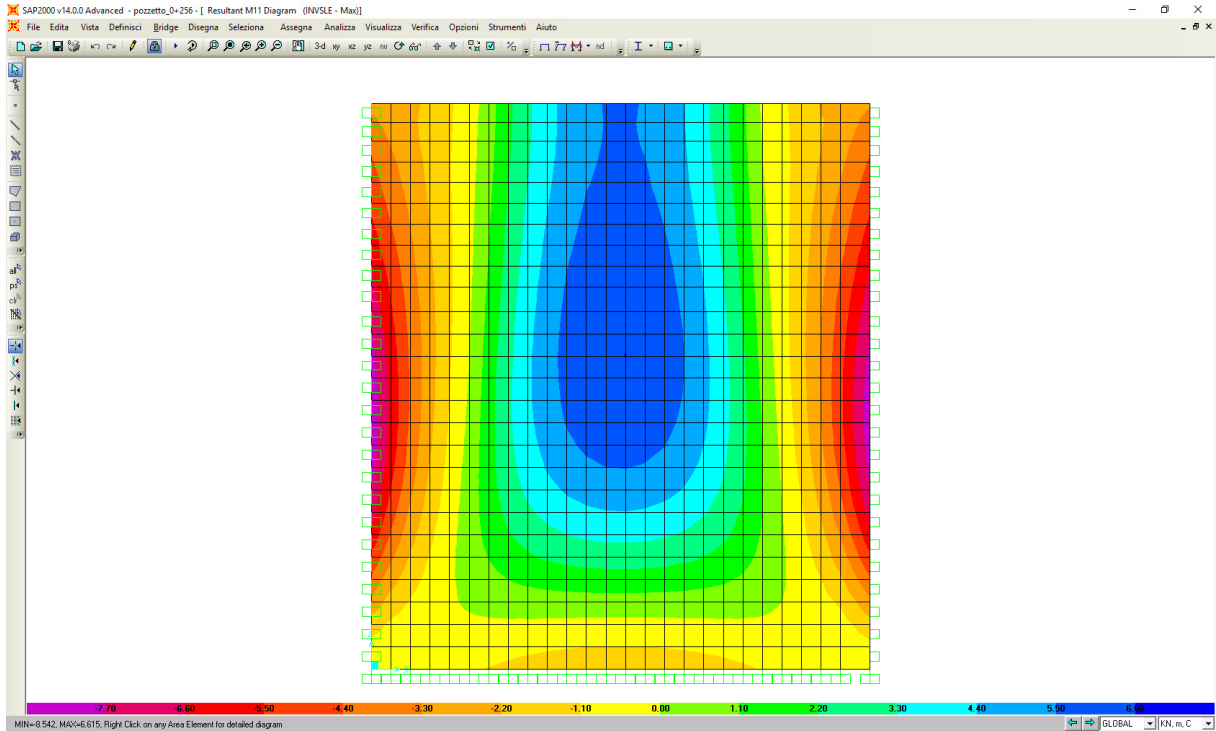


Involuppo Momenti Flettenti SLE: M22 (+)

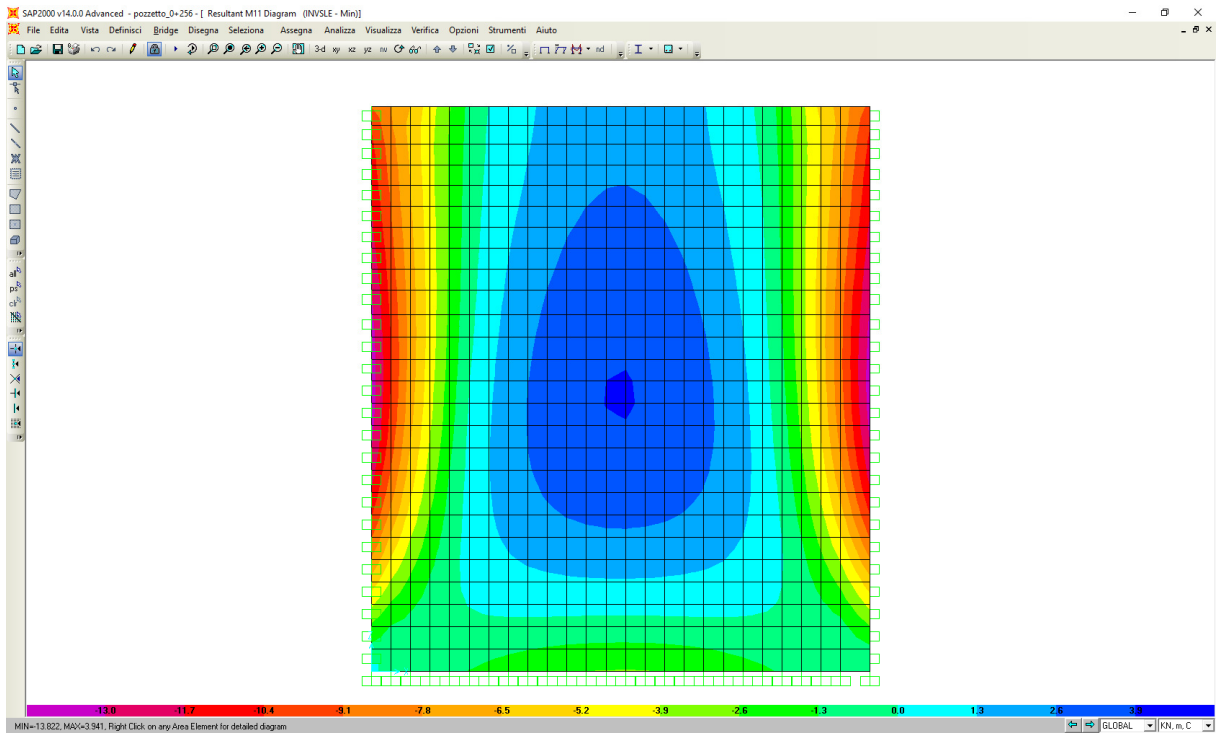


Involuppo Momenti Flettenti SLE: M22 (-)

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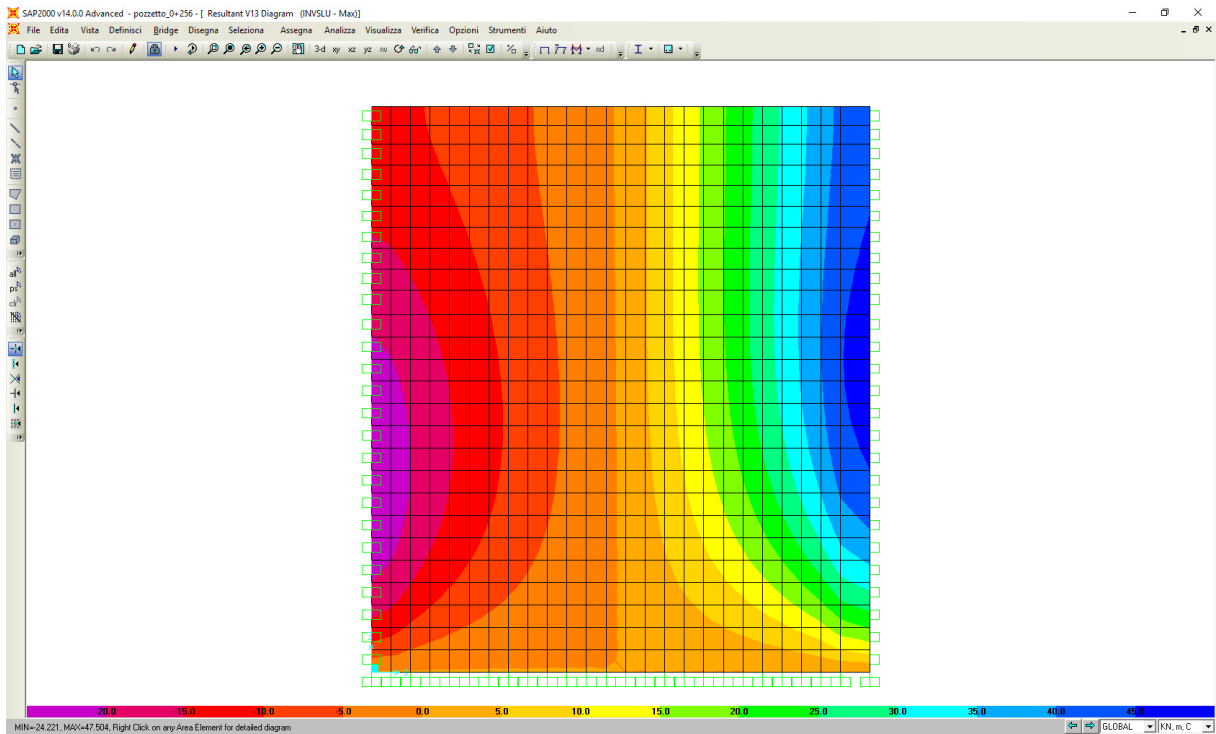


Involuppo Momenti Flettenti SLE: M11 (+)

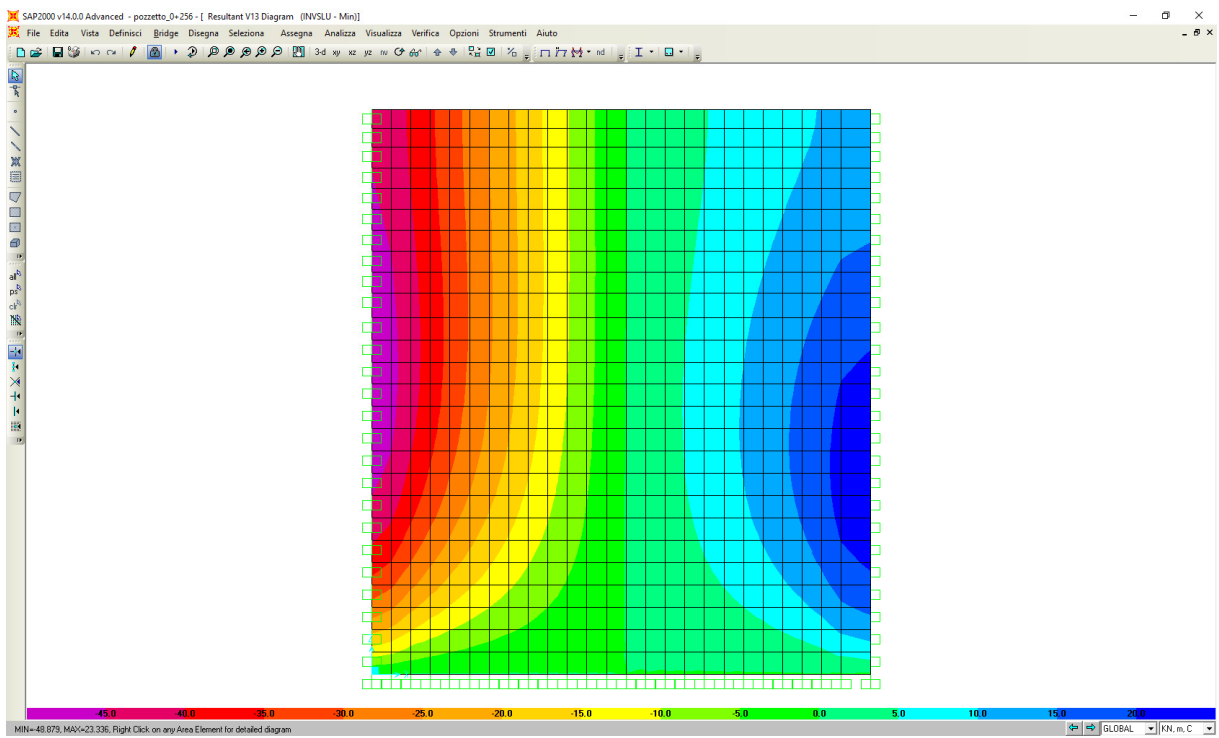


Involuppo Momenti Flettenti SLE: M11 (-)

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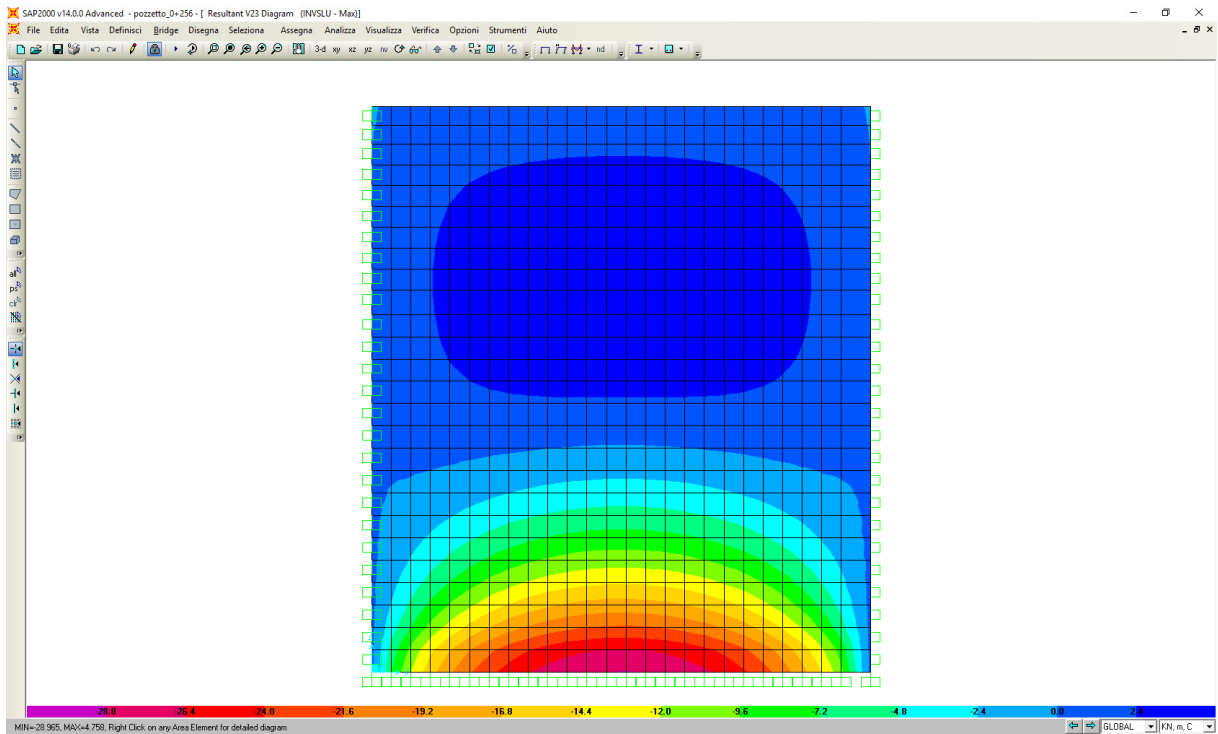


Involuppo Sollecitazioni di Taglio SLU: V13 (+)

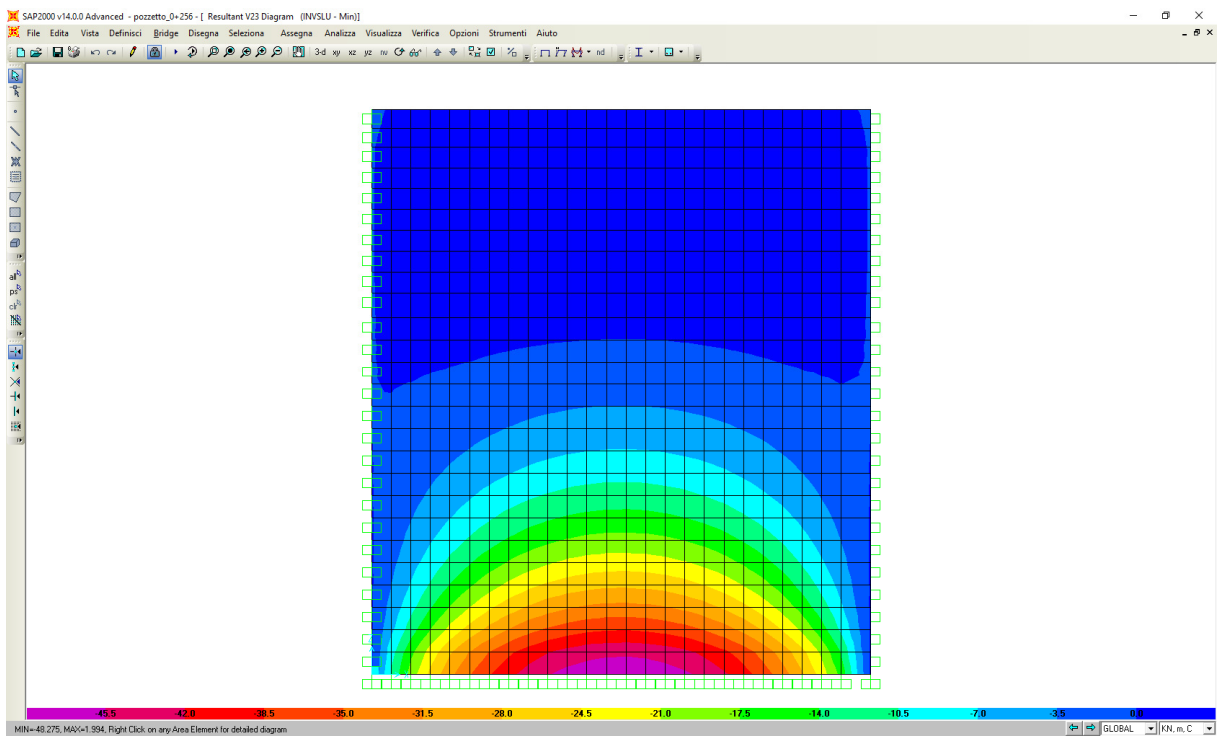


Involuppo Sollecitazioni di Taglio SLU: V13 (-)

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Involuppo Sollecitazioni di Taglio SLU: V23 (+)



Involuppo Sollecitazioni di Taglio SLU: V23 (-)

	2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto 2.1 Tratto Fabriano-Matelica Nord Opere d'arte minori: opere di attraversamento Sistemazione viabilità interferita al km 6+168 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo								
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Riassumendo si hanno le seguenti sollecitazioni massime:

	SLU	SLE
	kNm	
M22,max	6.23	4.03
M22,min	-22.20	-13.58
M11,max	12.40	6.61
M11,min	-25.45	-13.81

SLU (kN)	
V13,max	47.54
V13,min	-48.86
V23,max	4.68
V23,min	-48.28

7.5 VERIFICHE

Le verifiche degli elementi strutturali che compongono l'opera, sono state eseguite mediante il metodo degli Stati Limite.

Verifica materiali:

Stato Limite Ultimo

Coefficiente di sicurezza calcestruzzo γ_c	1.50
Fattore riduzione da resistenza cubica a cilindrica	0.83
Fattore di riduzione per carichi di lungo periodo	0.85
Coefficiente di sicurezza acciaio	1.15

Verifica Taglio - Metodo dell'inclinazione variabile del traliccio

$$V_{Rd} = [0.18 \cdot k \cdot (100.0 \cdot \rho_l \cdot f_{ck})^{1/3} / \gamma_c + 0.15 \cdot \sigma_{cp}] \cdot b_w \cdot d > (v_{min} + 0.15 \cdot \sigma_{cp}) \cdot b_w \cdot d$$

$$V_{Rsd} = 0.9 \cdot d \cdot A_{sw} / s \cdot (\text{ctg} \alpha + \text{ctg} \theta) \cdot \sin \alpha$$

$$V_{Rcd} = 0.9 \cdot d \cdot b_w \cdot \alpha_c \cdot f_{cd} \cdot (\text{ctg}(\theta) + \text{ctg}(\alpha)) / (1.0 + \text{ctg} \theta^{1/2})$$

con:

d altezza utile sezione [mm]

b_w larghezza minima sezione [mm]

σ_{cp} tensione media di compressione [N/mm²]

ρ_l rapporto geometrico di armatura

A_{sw} area armatura trasversale [mm²]

S interasse tra due armature trasversali consecutive [mm]

α_c coefficiente maggiorativo, funzione di f_{cd} e σ_{cp}

	2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto 2.1 Tratto Fabriano-Matelica Nord Opere d'arte minori: opere di attraversamento Sistemazione viabilità interferita al km 6+168 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo								
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$$f_{cd}' = 0.5 * f_{cd}$$

$$k = 1 + (200/d)^{1/2}$$

$$v_{min} = 0.035 * k^{3/2} * f_{ck}^{1/2}$$

Stato Limite di Esercizio

Criteri di scelta per verifiche tensioni di esercizio:

Ambiente poco aggressivo

Limite tensioni di compressione nel calcestruzzo (comb. rare) 19.2 N/mm²

Limite tensioni di compressione nel calcestruzzo (comb. quasi perm.) 14.8 N/mm²

Limite tensioni di trazione nell'acciaio (comb. rare) 360 N/mm²

Criteri verifiche a fessurazione:

Armatura poco sensibile

Ambiente aggressivo

Apertura limite fessure espresse in [mm]

Apertura limite fessure w1= 0.20 w2 = 0.30 w3 = 0.40

Tutte le Verifiche secondo condotte con :

Norme Tecniche 2005 - Approccio 1

Copriferro sezioni 4.00 [cm]

Le verifiche in oggetto sono risultate tutte soddisfatte, come si vede da uno stralcio dei tabulati di calcolo di seguito riportate, mentre i tabulati completi sono riportati negli "Allegati di calcolo"

	2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto 2.1 Tratto Fabriano-Matelica Nord Opere d'arte minori: opere di attraversamento Sistemazione viabilità interferita al km 6+168 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo								
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Verifiche delle armature

Di seguito si riportano le verifiche di resistenza delle sezioni più sollecitate.

Inoltre avendo utilizzato un armatura simmetrica su tutto il pozzetto, le verifiche strutturali verranno effettuate solo per la sezione più sollecitata e considerando le armature posposte in 2° strato.

Le sollecitazioni di verifica sono riportate nelle tabelle seguenti.

Sollecitazioni di verifica		
	Mmax (kNm)	Tmax (kN)
SLU - STATICA	25.45	48.86
SLE - RARA	13.81	/

Nota: M positivo se tende le fibre inferiori (contro terra)

Caratteristiche geometriche della sezione

Larghezza b	100 cm
Altezza h	30 cm
Armatura tesa 1° strato Aa	1Φ12/20 = 5.65 cm ²
Copriferro 1° strato c1	5.8 cm
Armatura tesa 2° strato Aa	
Copriferro 2° strato c2	
Armatura compressa 1° strato A'a	1Φ12/20 = 5.65 cm ²
Copriferro armatura compressa c'	24.2 cm

Le sollecitazioni per l'acciaio sono state ottenute trascurando, a favore di sicurezza, le azioni normali di compressione.

Verifiche allo stato limite ultimo per flessione

Sollecitazioni di verifica:

$$M = 25.45 \text{ kNm}$$

Sollecitazioni ultime:

$$M_u = 61.26 \text{ kNm}$$

$$\text{Coeff. sicurezza} = 1.99$$

	2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto 2.1 Tratto Fabriano-Matelica Nord Opere d'arte minori: opere di attraversamento Sistemazione viabilità interferita al km 6+168 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo								
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Verifiche allo stato limite di esercizio (condizione rara)

Le verifiche da condurre in combinazione rara riguardano le tensioni di esercizio; nello specifico si verifica che le tensioni nei materiali si mantengano nei seguenti limiti:

$$\sigma_c \leq 19.20 \text{ N/mm}^2$$

$$\sigma_f \leq 360 \text{ N/mm}^2$$

Sollecitazioni di verifica:

$$M = 13.81 \text{ kNm}$$

pertanto:

$$\sigma_c = 2.21 \text{ N/mm}^2$$

$$\sigma_f = 109.24 \text{ N/mm}^2$$

Le verifiche sono rispettate.

Verifiche allo stato limite di esercizio (condizione frequente)

Le verifiche da condurre in combinazione frequente riguardano l'apertura delle fessure; nello specifico si verifica che l'ampiezza delle fessure si mantenga inferiore al valore limite:

$$w_k \leq w_2 = 0.300 \text{ mm.}$$

Sollecitazioni di verifica:

$$M = 13.81 \text{ kNm}$$

$$w_k = 0.083 \text{ mm} \leq w_2$$

Verifiche allo stato limite di esercizio (condizione quasi permanente)

Le verifiche da condurre in combinazione quasi permanente riguardano sia la tensione di esercizio del calcestruzzo sia l'apertura delle fessure; nello specifico si verifica che la tensione nel calcestruzzo si mantenga nel seguente limite:

$$\sigma_c \leq 14.80 \text{ N/mm}^2$$

e che l'ampiezza delle fessure si mantenga inferiore al valore limite:

$$w_k \leq w_1 = 0.200 \text{ mm.}$$

Sollecitazioni di verifica:

$$M = 13.81 \text{ kNm}$$

Nel caso in esame si ha:

$$\sigma_c = 2.21 \text{ N/mm}^2$$

$$w_k = 0.083 \text{ mm} < w_1$$

Verifiche allo stato limite ultimo per Taglio

Di seguito si riporta la verifica a taglio ultimo della sezione in esame:

<i>Elementi senza armatura trasversale a taglio</i>			
<i>- Verifica del conglomerato</i>			
$VRd = [0,18 \cdot k \cdot (100 \cdot \rho \cdot 1 \cdot f_{ck})^{1/3} / \gamma_c + 0,15 \cdot \sigma_{cp}] \cdot bw \cdot d =$	107.36	kN	
VEd =	48.86 kN		ok
con:			
$K = 1 + (200/d)^{1/2} =$	1.933		≤ 2
$R_{ck} =$	40	N/mm ²	
$v_{min} = 0,035 \cdot k^{3/2} \cdot f_{ck}^{1/2} =$	0.542	N/mm ²	
$f_{ck} = 0,83 \cdot R_{ck} =$	33.2	N/mm ²	
$f_{cd} = \alpha_{cc} \cdot f_{ck} / \gamma_c =$	18.81	N/mm ²	
$\rho_1 = A_{sl} / (bw \cdot d) =$	0.00246		$\leq 0,02$
$d =$	230	mm	
$H =$	300	mm	
$bw =$	1000	mm	
$A_{sl} =$	565	mm ²	(1 ϕ 12/20)
$N_{Ed} =$	0.00	kN	
$\sigma_{cp} = N_{Ed} / A_c =$	0.000	N/mm ²	$\leq 0,2 \cdot f_{cd}$

8. CALCOLO DEL MURO DI SOSTEGNO

Il presente capitolo riporta le calcolazioni eseguite e le relative verifiche del muro di sostegno (h_{media}=2.90 m) realizzato allo sbocco del tombino ϕ 1500:

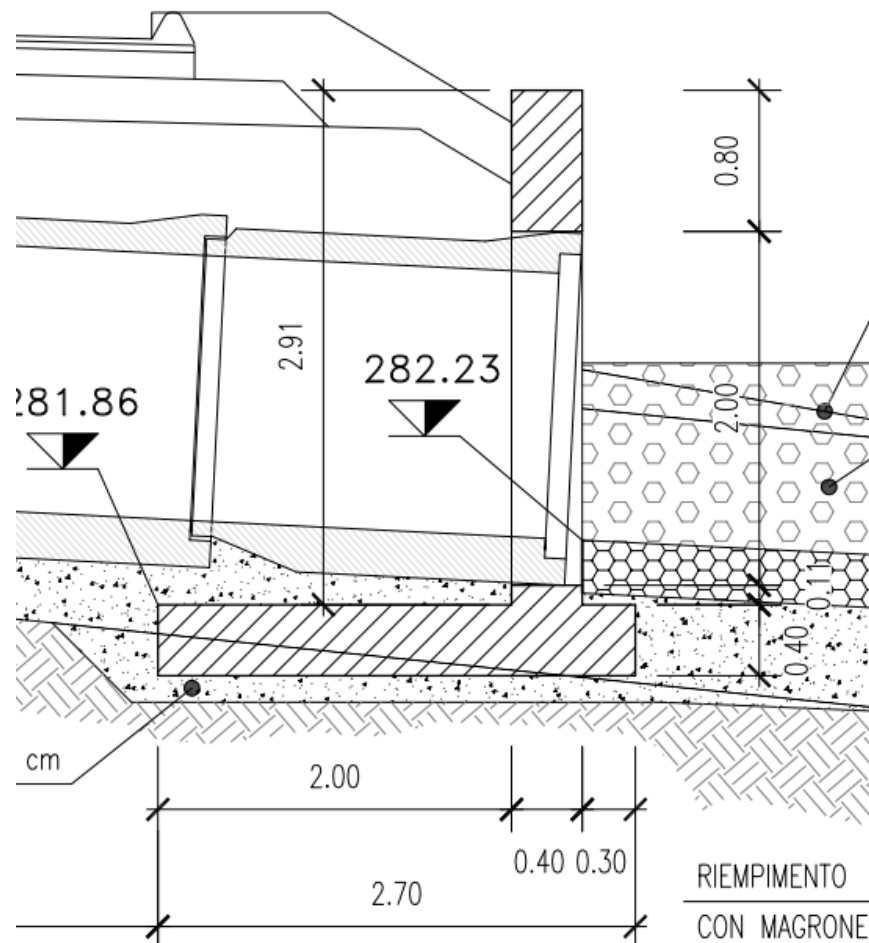


Figura 4: Sezione Muri di sostegno

	2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto 2.1 Tratto Fabriano-Matelica Nord Opere d'arte minori: opere di attraversamento Sistemazione viabilità interferita al km 6+168 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo								
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8.1 CRITERI E IPOTESI DI CALCOLO

8.1.1 Criteri di verifica delle sezioni in c.a.

Per le sezioni in cemento armato si effettuano:

- verifiche per gli stati limite ultimi a presso-flessione;
- verifiche per gli stati limite ultimi a taglio;
- verifiche per gli stati limite di esercizio.

8.1.2 Verifiche per gli stati limite ultimi a flessione-presso-flessione

Allo stato limite ultimo, le verifiche a flessione o presso-flessione vengono condotte confrontando (per le sezioni più significative) le resistenze ultime e le sollecitazioni massime agenti, valutando di conseguenza il corrispondente fattore di sicurezza.

8.1.3 Verifica agli stati limite ultimi a taglio

La verifica allo stato limite ultimo per azioni di taglio è condotta secondo quanto prescritto dalla norma UNI EN 1992-1-1:2005, per elementi con armatura a taglio verticali.

Si fa, pertanto, riferimento ai seguenti valori della resistenza di calcolo:

$$V_{Rd,c} = \max \left\{ \left[\frac{0.18}{\gamma_c} \cdot k \cdot (100 \cdot \rho_1 \cdot f_{ck})^{1/3} + 0.15 \cdot \sigma_{cp} \right] \cdot b_w \cdot d; (v_{\min} + 0.15 \cdot \sigma_{cp}) \cdot b_w \cdot d \right\},$$

resistenza di calcolo dell'elemento privo di armatura a taglio

$$V_{Rd,s} = 0.9 \cdot \frac{A_{sw}}{s} \cdot z \cdot f_{ywd} \cdot (\cot \alpha + \cot \vartheta) \cdot \sin \alpha, \text{ valore di progetto dello sforzo di taglio che può}$$

essere sopportato dall'armatura a taglio alla tensione di snervamento

$$V_{Rd,max} = 0.9 \cdot d \cdot b_w \cdot \alpha_c \cdot f'_{cd} (\cot \alpha + \cot \vartheta) / (1 + \cot^2 \vartheta), \text{ valore di progetto del massimo sforzo di}$$

taglio che può essere sopportato dall'elemento, limitato dalla rottura delle bielle compresse.

Nelle espressioni precedenti, i simboli hanno i seguenti significati:

$$k = 1 + \sqrt{\frac{200}{d}} \leq 2 \text{ con } d \text{ in mm;}$$

$$\rho_1 = \frac{A_{sl}}{b_w \cdot d} \leq 0.02;$$

	2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto 2.1 Tratto Fabriano-Matelica Nord Opere d'arte minori: opere di attraversamento Sistemazione viabilità interferita al km 6+168 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo								
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- A_{sl} è l'area dell'armatura tesa;
- b_w è la larghezza minima della sezione in zona tesa;
- $\sigma_{cp} = \frac{N_{Ed}}{A_c} < 0.2 \cdot f_{cd}$;
- N_{Ed} è la forza assiale nella sezione dovuta ai carichi;
- A_c è l'area della sezione di calcestruzzo;
- $v_{min} = 0.035 \cdot k^{3/2} \cdot f_{ck}^{1/2}$;
- $1 \leq \cot \theta \leq 2.5$ è l'inclinazione dei puntoni di calcestruzzo rispetto all'asse della trave
- A_{sw} è l'area della sezione trasversale dell'armatura a taglio;
- s è il passo delle staffe;
- f_{ywd} è la tensione di snervamento di progetto dell'armatura a taglio;
- $f'_{cd} = 0.5 \cdot f_{cd}$ è la resistenza ridotta a compressione del calcestruzzo d'anima;
- $\alpha_{cw} = 1$ è un coefficiente che tiene conto dell'interazione tra la tensione nel corrente compresso e qualsiasi tensione di compressione assiale.

8.1.4 Verifica agli stati limite d'esercizio

Si effettuano le seguenti verifiche agli stati limite di esercizio:

- stato limite delle tensioni in esercizio;
- stato limite di fessurazione.

Nel primo caso, si esegue il controllo delle tensioni nei materiali supponendo una legge costitutiva tensioni-deformazioni di tipo lineare. In particolare si controlla la tensione massima di compressione del calcestruzzo e di trazione dell'acciaio, verificando che:

- $\sigma_c < 19.20 N/mm^2$ per combinazione rara delle azioni;
- $\sigma_s < 360 N/mm^2$.

Per il cemento armato precompresso vi sono delle condizioni aggiuntive da verificare, qui di seguito riassunte:

La verifica a fessurazione è stata svolta secondo il metodo proposto della NTC 2005.

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Tabella 5.1-X

Gruppi di esigenze	Condizioni ambientali	Combinazione di azioni	Armatura			
			Sensibile		Poco sensibile	
			Stato limite	w_d	Stato limite	w_d
a	Ordinarie	frequente	ap. fessure	$\leq w_2$	ap. fessure	$\leq w_3$
		quasi permanente	ap. fessure	$\leq w_1$	ap. fessure	$\leq w_2$
b	Aggressive	frequente	ap. fessure	$\leq w_1$	ap. fessure	$\leq w_2$
		quasi permanente	decompressione	-	ap. fessure	$\leq w_1$
c	Molto aggressive	frequente	formaz. fessure	$\leq w_1$	ap. fessure	$\leq w_1$
		quasi permanente	decompressione	-	ap. fessure	$\leq w_1$

Nel nostro caso, si assume che le condizioni ambientali del sito in cui sorge l'opera siano aggressive e si verifica che il valore limite di apertura della fessura, calcolato per armature poco sensibili, sia al più pari ai seguenti valori nominali:

- $w_1 = 0.3$ mm -combinazione frequente,
- $w_1 = 0.2$ mm -combinazione quasi permanente

8.2 VERIFICA AGLI STATI LIMITI

L'analisi mira a garantire la sicurezza e le prestazioni attese attraverso il conseguimento dei seguenti requisiti :

- sicurezza nei confronti degli Stati Limite di Esercizio.
- sicurezza nei confronti degli Stati Limite Ultimi

Tali verifiche sono state effettuate prevedendo le due seguenti combinazioni di coefficienti:

- Combinazione 1: A1+M1+R1 (STR)
- Combinazione 2: A2+M2+R2 (GEO)

A queste combinazioni si aggiunge la combinazione che prevede l'urto del veicolo in svio in testa al muro (ECC) con coefficienti unitari di combinazione dei carichi permanenti e degli accidentali e coefficiente di sicurezza anch'esso unitario.

Considerando i coefficienti parziali riportati nelle tab delle NTC 2005.

Nelle condizioni di esercizio gli spostamenti dell'opera sono stati valutati per verificarne la compatibilità con la funzionalità dell'opera e con la sicurezza delle opere adiacenti.

In particolare in condizioni sismiche devono essere condotte verifiche nei confronti dello stato limite di

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danno. Gli spostamenti permanenti indotti dal sisma devono essere compatibili con la funzionalità dell'opera e con quella di eventuali strutture o infrastrutture interagenti con essa.

Nel nostro caso trattasi di muri di controripa, quindi che non hanno funzione di contenimento della sede ferroviaria pertanto tale verifica viene omessa.

In particolare sono stati verificati i seguenti stati limiti ultimi:

- ❖ Verifica del muro di sostegno

SLU di tipo geotecnico (GEO)

- scorrimento sul piano di posa;
- collasso per carico limite dell'insieme fondazione-terreno;
- ribaltamento.

SLU di tipo strutturale (STR)

- raggiungimento della resistenza negli elementi strutturali;

Le rimanenti verifiche devono essere effettuate applicando il primo approccio progettuale (Approccio 1) che prevede le due seguenti combinazioni di coefficienti:

- Combinazione 1: A1+M1+R1 (STR)
- Combinazione 2: A2+M2+R2 (GEO)

Considerando i coefficienti parziali riportati nelle tab. delle NTC 2005.

I risultati delle analisi sono riportati di seguito.

	2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto 2.1 Tratto Fabriano-Matelica Nord Opere d'arte minori: opere di attraversamento Sistemazione viabilità interferita al km 6+168 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo								
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8.2.1 Metodo di analisi - calcolo muro

8.2.1.1 Descrizione modello di calcolo

Il progetto e la verifica dei muri di sostegno, sono stati effettuati con l'ausilio di fogli elettronici di comprovata validità.

In tali fogli vengono implementate tutte le caratteristiche geometriche dei muri insieme agli angoli di attrito tra paramento e terreno e tra fondazione e terreno.

Per quanto riguarda l'angolo di attrito tra paramento e terreno si effettua la seguente distinzione:

Caso di muri a mensola con suola sufficientemente lunga, quando cioè l'angolo che la retta passante per lo spigolo lato terreno della testa del muro e lo spigolo lato terreno della fondazione forma con la verticale è superiore a $45-\phi'/2$ con ϕ' angolo di resistenza al taglio del terreno, la spinta sull'opera di sostegno deve essere applicata sul piano verticale a partire dallo spigolo controterra della fondazione assunto come paramento virtuale del muro. Su tale paramento l'angolo di inclinazione δ della risultante della spinta (applicata ad $1/3$ dell'altezza del paramento virtuale) si può assumere uguale all'angolo di inclinazione β del terrapieno, a meno che β non sia superiore all'angolo di resistenza al taglio del terreno ϕ' , nel qual caso si potrà assumere $\delta = \phi'$.

Per muri con suola relativamente corta, quando cioè l'angolo che la retta passante per lo spigolo lato terreno della testa del muro e lo spigolo lato terreno della fondazione forma con la verticale è inferiore a $45-\phi'/2$ con ϕ' angolo di resistenza al taglio del terreno, si può assumere $\delta = \phi'/2$ e la superficie virtuale su cui applicare la spinta diventa il piano che unisce lo spigolo lato terreno della testa del muro e lo spigolo lato terreno della fondazione.

Nel primo caso tutto il peso del terreno al di sopra della suola deve essere considerato stabilizzante nelle verifiche, e ad esso sono da applicarsi le forze di inerzia in fase sismica. Nel secondo caso il terreno da prendere in considerazione è quello contenuto nel triangolo che ha per la lati il paramento verticale, la fondazione del muro e la retta passante per lo spigolo lato terreno della testa del muro e lo spigolo lato terreno della fondazione.

Nel nostro caso i muri sono con mensola corta e quindi $\delta = 0.5*\phi'$.

Nel valutare la stabilità di un muro di sostegno è opportuno che la verifica allo scorrimento della fondazione del muro sia effettuata con riferimento al valore a volume costante o allo stato critico dell'angolo di resistenza al taglio, poichè il meccanismo di scorrimento, che coinvolge spessori molto modesti di terreno e l'inevitabile disturbo connesso con la preparazione del piano di posa della fondazione, possono comportare modifiche significative dei parametri di resistenza. Per questo stesso motivo, nelle analisi svolte in termini di tensioni efficaci, è opportuno trascurare ogni contributo della coesione nelle verifiche allo scorrimento.

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Inoltre nella verifica a scorrimento e a ribaltamento dei muri di sostegno viene trascurata la resistenza passiva antistante il muro.

Nel nostro caso l'angolo di attrito fondazione-terreno nelle verifiche a scorrimento è pari a $\phi'_{cv} = \arctan(\tan\phi')$.

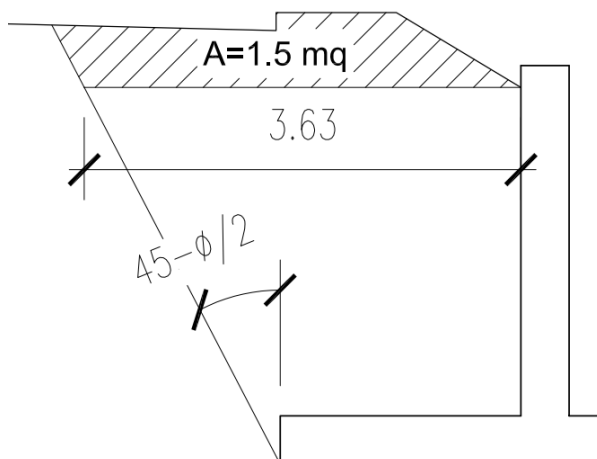
8.3 MURO: H = 2.90 M

8.3.1 Analisi dei carichi

8.3.1.1 Carico permanente

L'analisi viene condotta considerando una larghezza unitaria dell'opera.

Il carico di progetto è rappresentato dal peso proprio dei permanenti (struttura in c.a., terrapieno) e dal sovraccarico accidentale. In particolare il terrapieno che si trova a tergo del muro ad una quota più alta rispetto alla testa del muro, viene considerato come sovraccarico equivalente pari a: $20 \cdot 1.50 / 3.63 = 9.00$ kN/mq. Tale carico è stato ottenuto calcolando il peso di terrapieno che ricade all'interno del cuneo di spinta sul muro:



8.3.1.2 Accidentale a tergo del muro

A monte si ha un sovraccarico accidentale dovuto al traffico stradale pari a 20.00 kN/m².

	2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto 2.1 Tratto Fabriano-Matelica Nord Opere d'arte minori: opere di attraversamento Sistemazione viabilità interferita al km 6+168 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo								
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8.3.1.3 Descrizione analisi sismica

In condizioni sismiche, nelle analisi eseguite con il metodo pseudostatico, i valori dei coefficienti sismici orizzontali e verticali, nelle verifiche allo stato limite ultimo, possono essere assunti, come definito ai paragrafi precedenti relativi al calcolo della vbasca di imbocco::

$$k_h = S_T \cdot S_S \cdot \frac{a_g}{g} / r ; \quad k_v = \frac{1}{2} \cdot k_h$$

I parametri che caratterizzano l'azione sismica (Terreno di tipo E) sono riportati nella tabella seguente:

$S_s \cdot S_T \cdot a_g / g$	0.343
Coefficiente r	2
$k_h = a_{max} (g) / r$	0.172
$K_v = 0.5 \cdot k_h =$	0.086

Verifica muro - Parametri azione sismica

L'evento sismico è stato modellato considerando due tipi di forze:

- 1) le forze inerziali applicate alle masse strutturali del muro e del terrapieno a tergo del muro;
- 2) l'incremento di spinta sismica del terreno.

Per quanto attiene alle forze inerziali si moltiplica il coefficiente k_h per le masse in questione.

Il secondo contributo consiste in un incremento di spinta ΔF pari alla differenza fra la spinta totale F_{sd} esercitata dal terreno retrostante in condizioni sismiche (calcolata con il metodo di Mononobe-Okabe) e quella statica F_s :

$\Delta F = F_{sd} - F_s =$ incremento di spinta corrispondente all'effetto sismico (applicata a metà del muro).

	2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto 2.1 Tratto Fabriano-Matelica Nord Opere d'arte minori: opere di attraversamento Sistemazione viabilità interferita al km 6+168 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo								
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8.3.2 Risultati verifiche geotecniche

Di seguito vengono riportati i risultati delle verifiche geotecniche in forma tabellare esplicitate negli allegati:

MURO H=2.90 m

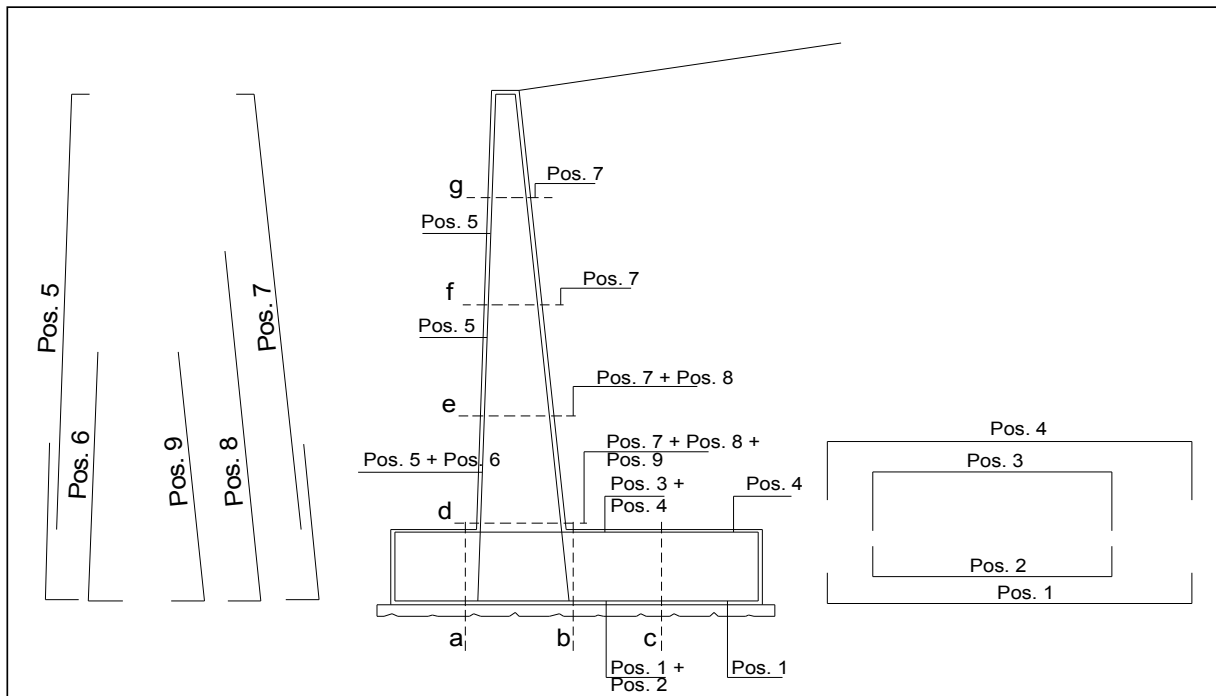
CONDIZIONE STATICA				
	Scorrimento	Ribaltamento	Capacità portante	Cedimento della fondazione (mm)
SLE	---	----	----	8.32
CONDIZIONE ALLO SLU E SISMICA				
	Scorrimento	Ribaltamento	Capacità portante	Cedimento della fondazione (mm)
SLU (A1-M1)	1.65	3.24	4.05	---
SLU (A2-M2)	1.32	3.05	2.12	---
SISMICA +	1.06	2.80	1.30	----
SISMICA -	1.01	2.16	1.18	----
	ok	ok	ok	

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8.3.3 Risultati verifiche strutturali del muro con H = 2.90 m

Di seguito vengono riportati i risultati delle verifiche strutturali, nelle sezioni indicate in figura, in forma tabellare esplicitate nell'allegato:

SCHEMA DELLE ARMATURE

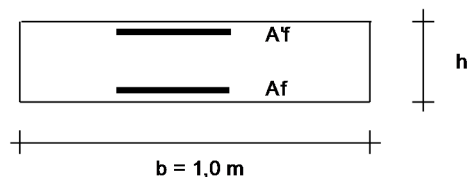


ARMATURE

pos	n°/ml	φ	pos	n°/ml	φ
1	5.0	14	5	5.0	12
2	5.0	0	6	0.0	0
3	5.0	12	7	5.0	14
4	5.0	14	8	5.0	0
			9	5.0	0

Calcola

VERIFICHE



a-a pos 1-2-3-4
 b-b pos 1-2-3-4
 c-c pos 1-4
 d-d pos 5-6-7-8-9
 e-e pos 5-7-8
 f-f pos 5-7
 g-g pos 5-7

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A1-M1

Sez.	M	N	h	Af	A'f	Mu
(-)	(kNm)	(kN)	(m)	(cm ²)	(cm ²)	(kNm)
a - a	4.48	0.00	0.40	7.70	13.35	110.49
b - b	-123.77	0.00	0.40	13.35	7.70	174.58
c - c	-46.92	0.00	0.40	7.70	7.70	109.08
d - d	69.65	47.05	0.40	7.70	5.65	115.43
e - e	35.42	33.65	0.40	7.70	5.65	113.28
f - f	14.07	21.35	0.40	7.70	5.65	111.30
g - g	3.10	10.13	0.40	7.70	5.65	109.50

A2-M2

Sez.	M	N	h	Af	A'f	Mu
(-)	(kNm)	(kN)	(m)	(cm ²)	(cm ²)	(kNm)
a - a	4.68	0.00	0.40	7.70	13.35	111.28
b - b	-79.13	0.00	0.40	13.35	7.70	173.57
c - c	-34.72	0.00	0.40	7.70	7.70	109.64
d - d	72.05	44.17	0.40	7.70	5.65	115.36
e - e	37.09	31.89	0.40	7.70	5.65	113.49
f - f	14.96	20.44	0.40	7.70	5.65	111.71
g - g	3.36	9.81	0.40	7.70	5.65	110.03

SISMA

Sez.	M	N	h	Af	A'f	Mu
(-)	(kNm)	(kN)	(m)	(cm ²)	(cm ²)	(kNm)
a - a	5.55	0.00	0.40	7.70	13.35	110.49
b - b	-99.45	0.00	0.40	13.35	7.70	174.58
c - c	-40.93	0.00	0.40	7.70	7.70	109.08
d - d	77.32	44.11	0.40	7.70	5.65	114.96
e - e	35.83	31.24	0.40	7.70	5.65	112.90
f - f	12.52	19.60	0.40	7.70	5.65	111.02
g - g	2.28	9.19	0.40	7.70	5.65	109.35

SLE e fessurazione

Sez.	M	N	h	Af	A'f	σ^c	σ^f	wk	w _{amm}
(-)	(kNm)	(kN)	(m)	(cm ²)	(cm ²)	(N/mm ²)	(N/mm ²)	(mm)	(mm)
a - a	3.66	0.00	0.40	7.70	13.35	0.28	15.10	0.017	0.200
b - b	-51.65	0.00	0.40	13.35	7.70	3.20	125.17	0.105	0.200
c - c	-23.41	0.00	0.40	7.70	7.70	1.82	96.39	0.108	0.200
d - d	47.71	41.45	0.40	7.70	5.65	3.75	169.02	0.185	0.200
e - e	24.15	29.92	0.40	7.70	5.65	1.90	79.81	0.087	0.200
f - f	9.54	19.17	0.40	7.70	5.65	0.74	26.91	0.029	0.200
g - g	2.09	9.20	0.40	7.70	5.65	0.15	3.08	0.003	0.200

(n.b.: M+ tende le fibre di intradosso, M- tende le fibre di estradosso)

Verifica a taglio sezione b-b			
<i>Elementi senza armatura trasversale a taglio</i>			
<i>- Verifica del conglomerato</i>			
$VRd = [0,18 \cdot k \cdot (100 \cdot \rho \cdot 1 \cdot f_{ck})^{1/3} / \gamma_c + 0,15 \cdot \sigma_{cp}] \cdot bw \cdot d =$	167.41	kN	
VEd =	81.27	kN	ok
con:			
$K = 1 + (200/d)^{1/2} =$	1.778		≤ 2
$R_{ck} =$	40	N/mm ²	
$v_{min} = 0,035 \cdot k^{3/2} \cdot f_{ck}^{1/2} =$	0.478	N/mm ²	
$f_{ck} = 0,83 \cdot R_{ck} =$	33.2	N/mm ²	
$f_{cd} = \alpha_{cc} \cdot f_{ck} / \gamma_c =$	18.81	N/mm ²	
$\rho_1 = A_{sl} / (bw \cdot d) =$	0.00405		$\leq 0,02$
$d =$	330	mm	
$H =$	400	mm	
$bw =$	1000	mm	
$A_{sl} =$	1335	mm ²	(1φ14/20+1φ12/20)
$N_{Ed} =$	0.00	kN	
$\sigma_{cp} = N_{Ed} / A_c =$	0.000	N/mm ²	$\leq 0,2 \cdot f_{cd}$

Verifica a taglio sezione d-d			
<i>Elementi senza armatura trasversale a taglio</i>			
<i>- Verifica del conglomerato</i>			
$VRd = [0,18 \cdot k \cdot (100 \cdot \rho \cdot 1 \cdot f_{ck})^{1/3} / \gamma_c + 0,15 \cdot \sigma_{cp}] \cdot bw \cdot d =$	139.35	kN	
VEd =	58.11	kN	ok
con:			
$K = 1 + (200/d)^{1/2} =$	1.778		≤ 2
$R_{ck} =$	40	N/mm ²	
$v_{min} = 0,035 \cdot k^{3/2} \cdot f_{ck}^{1/2} =$	0.478	N/mm ²	
$f_{ck} = 0,83 \cdot R_{ck} =$	33.2	N/mm ²	
$f_{cd} = \alpha_{cc} \cdot f_{ck} / \gamma_c =$	18.81	N/mm ²	
$\rho_1 = A_{sl} / (bw \cdot d) =$	0.00233		$\leq 0,02$
$d =$	330	mm	
$H =$	400	mm	
$bw =$	1000	mm	
$A_{sl} =$	770	mm ²	(1ϕ14/20)
$N_{Ed} =$	0.00	kN	
$\sigma_{cp} = N_{Ed} / A_c =$	0.000	N/mm ²	$\leq 0,2 \cdot f_{cd}$



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.diPag. 42 di 416
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ALLEGATO 1 : TABULATI DI CALCOLO DELLA VASCA D' IMBOCCO

SAP2000 v14.0.0 1/31/18 10:18:16

Table: Area Loads - Gravity

Area	LoadPat	CoordSys	MultiplierX	MultiplierY	MultiplierZ
512	SISMICA	GLOBAL	0.000000	0.344000	0.000000
513	SISMICA	GLOBAL	0.000000	0.344000	0.000000
514	SISMICA	GLOBAL	0.000000	0.344000	0.000000
515	SISMICA	GLOBAL	0.000000	0.344000	0.000000
516	SISMICA	GLOBAL	0.000000	0.344000	0.000000
517	SISMICA	GLOBAL	0.000000	0.344000	0.000000
518	SISMICA	GLOBAL	0.000000	0.344000	0.000000
519	SISMICA	GLOBAL	0.000000	0.344000	0.000000
520	SISMICA	GLOBAL	0.000000	0.344000	0.000000
521	SISMICA	GLOBAL	0.000000	0.344000	0.000000
522	SISMICA	GLOBAL	0.000000	0.344000	0.000000
523	SISMICA	GLOBAL	0.000000	0.344000	0.000000
524	SISMICA	GLOBAL	0.000000	0.344000	0.000000
525	SISMICA	GLOBAL	0.000000	0.344000	0.000000
526	SISMICA	GLOBAL	0.000000	0.344000	0.000000
527	SISMICA	GLOBAL	0.000000	0.344000	0.000000
528	SISMICA	GLOBAL	0.000000	0.344000	0.000000
529	SISMICA	GLOBAL	0.000000	0.344000	0.000000
530	SISMICA	GLOBAL	0.000000	0.344000	0.000000
531	SISMICA	GLOBAL	0.000000	0.344000	0.000000
532	SISMICA	GLOBAL	0.000000	0.344000	0.000000
533	SISMICA	GLOBAL	0.000000	0.344000	0.000000
534	SISMICA	GLOBAL	0.000000	0.344000	0.000000
535	SISMICA	GLOBAL	0.000000	0.344000	0.000000
536	SISMICA	GLOBAL	0.000000	0.344000	0.000000
546	SISMICA	GLOBAL	0.000000	0.344000	0.000000
547	SISMICA	GLOBAL	0.000000	0.344000	0.000000
548	SISMICA	GLOBAL	0.000000	0.344000	0.000000
549	SISMICA	GLOBAL	0.000000	0.344000	0.000000
550	SISMICA	GLOBAL	0.000000	0.344000	0.000000
551	SISMICA	GLOBAL	0.000000	0.344000	0.000000
552	SISMICA	GLOBAL	0.000000	0.344000	0.000000
553	SISMICA	GLOBAL	0.000000	0.344000	0.000000
554	SISMICA	GLOBAL	0.000000	0.344000	0.000000
555	SISMICA	GLOBAL	0.000000	0.344000	0.000000
556	SISMICA	GLOBAL	0.000000	0.344000	0.000000
557	SISMICA	GLOBAL	0.000000	0.344000	0.000000
558	SISMICA	GLOBAL	0.000000	0.344000	0.000000
559	SISMICA	GLOBAL	0.000000	0.344000	0.000000
560	SISMICA	GLOBAL	0.000000	0.344000	0.000000
561	SISMICA	GLOBAL	0.000000	0.344000	0.000000
562	SISMICA	GLOBAL	0.000000	0.344000	0.000000
563	SISMICA	GLOBAL	0.000000	0.344000	0.000000
564	SISMICA	GLOBAL	0.000000	0.344000	0.000000
565	SISMICA	GLOBAL	0.000000	0.344000	0.000000
566	SISMICA	GLOBAL	0.000000	0.344000	0.000000
567	SISMICA	GLOBAL	0.000000	0.344000	0.000000
568	SISMICA	GLOBAL	0.000000	0.344000	0.000000
569	SISMICA	GLOBAL	0.000000	0.344000	0.000000
570	SISMICA	GLOBAL	0.000000	0.344000	0.000000
580	SISMICA	GLOBAL	0.000000	0.344000	0.000000
581	SISMICA	GLOBAL	0.000000	0.344000	0.000000
582	SISMICA	GLOBAL	0.000000	0.344000	0.000000
583	SISMICA	GLOBAL	0.000000	0.344000	0.000000
584	SISMICA	GLOBAL	0.000000	0.344000	0.000000
585	SISMICA	GLOBAL	0.000000	0.344000	0.000000
586	SISMICA	GLOBAL	0.000000	0.344000	0.000000
587	SISMICA	GLOBAL	0.000000	0.344000	0.000000
588	SISMICA	GLOBAL	0.000000	0.344000	0.000000
589	SISMICA	GLOBAL	0.000000	0.344000	0.000000
590	SISMICA	GLOBAL	0.000000	0.344000	0.000000
591	SISMICA	GLOBAL	0.000000	0.344000	0.000000
592	SISMICA	GLOBAL	0.000000	0.344000	0.000000
593	SISMICA	GLOBAL	0.000000	0.344000	0.000000
594	SISMICA	GLOBAL	0.000000	0.344000	0.000000
595	SISMICA	GLOBAL	0.000000	0.344000	0.000000
596	SISMICA	GLOBAL	0.000000	0.344000	0.000000

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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597	SISMICA	GLOBAL	0.000000	0.344000	0.000000
598	SISMICA	GLOBAL	0.000000	0.344000	0.000000
599	SISMICA	GLOBAL	0.000000	0.344000	0.000000
600	SISMICA	GLOBAL	0.000000	0.344000	0.000000
601	SISMICA	GLOBAL	0.000000	0.344000	0.000000
602	SISMICA	GLOBAL	0.000000	0.344000	0.000000
603	SISMICA	GLOBAL	0.000000	0.344000	0.000000
604	SISMICA	GLOBAL	0.000000	0.344000	0.000000
614	SISMICA	GLOBAL	0.000000	0.344000	0.000000
615	SISMICA	GLOBAL	0.000000	0.344000	0.000000
616	SISMICA	GLOBAL	0.000000	0.344000	0.000000
617	SISMICA	GLOBAL	0.000000	0.344000	0.000000
618	SISMICA	GLOBAL	0.000000	0.344000	0.000000
619	SISMICA	GLOBAL	0.000000	0.344000	0.000000
620	SISMICA	GLOBAL	0.000000	0.344000	0.000000
621	SISMICA	GLOBAL	0.000000	0.344000	0.000000
622	SISMICA	GLOBAL	0.000000	0.344000	0.000000
623	SISMICA	GLOBAL	0.000000	0.344000	0.000000
624	SISMICA	GLOBAL	0.000000	0.344000	0.000000
625	SISMICA	GLOBAL	0.000000	0.344000	0.000000
626	SISMICA	GLOBAL	0.000000	0.344000	0.000000
627	SISMICA	GLOBAL	0.000000	0.344000	0.000000
628	SISMICA	GLOBAL	0.000000	0.344000	0.000000
629	SISMICA	GLOBAL	0.000000	0.344000	0.000000
630	SISMICA	GLOBAL	0.000000	0.344000	0.000000
631	SISMICA	GLOBAL	0.000000	0.344000	0.000000
632	SISMICA	GLOBAL	0.000000	0.344000	0.000000
633	SISMICA	GLOBAL	0.000000	0.344000	0.000000
634	SISMICA	GLOBAL	0.000000	0.344000	0.000000
635	SISMICA	GLOBAL	0.000000	0.344000	0.000000
636	SISMICA	GLOBAL	0.000000	0.344000	0.000000
637	SISMICA	GLOBAL	0.000000	0.344000	0.000000
638	SISMICA	GLOBAL	0.000000	0.344000	0.000000
648	SISMICA	GLOBAL	0.000000	0.344000	0.000000
649	SISMICA	GLOBAL	0.000000	0.344000	0.000000
650	SISMICA	GLOBAL	0.000000	0.344000	0.000000
651	SISMICA	GLOBAL	0.000000	0.344000	0.000000
652	SISMICA	GLOBAL	0.000000	0.344000	0.000000
653	SISMICA	GLOBAL	0.000000	0.344000	0.000000
654	SISMICA	GLOBAL	0.000000	0.344000	0.000000
655	SISMICA	GLOBAL	0.000000	0.344000	0.000000
656	SISMICA	GLOBAL	0.000000	0.344000	0.000000
657	SISMICA	GLOBAL	0.000000	0.344000	0.000000
658	SISMICA	GLOBAL	0.000000	0.344000	0.000000
659	SISMICA	GLOBAL	0.000000	0.344000	0.000000
660	SISMICA	GLOBAL	0.000000	0.344000	0.000000
661	SISMICA	GLOBAL	0.000000	0.344000	0.000000
662	SISMICA	GLOBAL	0.000000	0.344000	0.000000
663	SISMICA	GLOBAL	0.000000	0.344000	0.000000
664	SISMICA	GLOBAL	0.000000	0.344000	0.000000
665	SISMICA	GLOBAL	0.000000	0.344000	0.000000
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667	SISMICA	GLOBAL	0.000000	0.344000	0.000000
668	SISMICA	GLOBAL	0.000000	0.344000	0.000000
669	SISMICA	GLOBAL	0.000000	0.344000	0.000000
670	SISMICA	GLOBAL	0.000000	0.344000	0.000000
671	SISMICA	GLOBAL	0.000000	0.344000	0.000000
672	SISMICA	GLOBAL	0.000000	0.344000	0.000000
682	SISMICA	GLOBAL	0.000000	0.344000	0.000000
683	SISMICA	GLOBAL	0.000000	0.344000	0.000000
684	SISMICA	GLOBAL	0.000000	0.344000	0.000000
685	SISMICA	GLOBAL	0.000000	0.344000	0.000000
686	SISMICA	GLOBAL	0.000000	0.344000	0.000000
687	SISMICA	GLOBAL	0.000000	0.344000	0.000000
688	SISMICA	GLOBAL	0.000000	0.344000	0.000000
689	SISMICA	GLOBAL	0.000000	0.344000	0.000000
690	SISMICA	GLOBAL	0.000000	0.344000	0.000000
691	SISMICA	GLOBAL	0.000000	0.344000	0.000000
692	SISMICA	GLOBAL	0.000000	0.344000	0.000000
693	SISMICA	GLOBAL	0.000000	0.344000	0.000000
694	SISMICA	GLOBAL	0.000000	0.344000	0.000000
695	SISMICA	GLOBAL	0.000000	0.344000	0.000000
696	SISMICA	GLOBAL	0.000000	0.344000	0.000000
697	SISMICA	GLOBAL	0.000000	0.344000	0.000000
698	SISMICA	GLOBAL	0.000000	0.344000	0.000000
699	SISMICA	GLOBAL	0.000000	0.344000	0.000000
700	SISMICA	GLOBAL	0.000000	0.344000	0.000000
701	SISMICA	GLOBAL	0.000000	0.344000	0.000000

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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702	SISMICA	GLOBAL	0.000000	0.344000	0.000000
703	SISMICA	GLOBAL	0.000000	0.344000	0.000000
704	SISMICA	GLOBAL	0.000000	0.344000	0.000000
705	SISMICA	GLOBAL	0.000000	0.344000	0.000000
706	SISMICA	GLOBAL	0.000000	0.344000	0.000000
716	SISMICA	GLOBAL	0.000000	0.344000	0.000000
717	SISMICA	GLOBAL	0.000000	0.344000	0.000000
718	SISMICA	GLOBAL	0.000000	0.344000	0.000000
719	SISMICA	GLOBAL	0.000000	0.344000	0.000000
720	SISMICA	GLOBAL	0.000000	0.344000	0.000000
721	SISMICA	GLOBAL	0.000000	0.344000	0.000000
722	SISMICA	GLOBAL	0.000000	0.344000	0.000000
723	SISMICA	GLOBAL	0.000000	0.344000	0.000000
724	SISMICA	GLOBAL	0.000000	0.344000	0.000000
725	SISMICA	GLOBAL	0.000000	0.344000	0.000000
726	SISMICA	GLOBAL	0.000000	0.344000	0.000000
727	SISMICA	GLOBAL	0.000000	0.344000	0.000000
728	SISMICA	GLOBAL	0.000000	0.344000	0.000000
729	SISMICA	GLOBAL	0.000000	0.344000	0.000000
730	SISMICA	GLOBAL	0.000000	0.344000	0.000000
731	SISMICA	GLOBAL	0.000000	0.344000	0.000000
732	SISMICA	GLOBAL	0.000000	0.344000	0.000000
733	SISMICA	GLOBAL	0.000000	0.344000	0.000000
734	SISMICA	GLOBAL	0.000000	0.344000	0.000000
735	SISMICA	GLOBAL	0.000000	0.344000	0.000000
736	SISMICA	GLOBAL	0.000000	0.344000	0.000000
737	SISMICA	GLOBAL	0.000000	0.344000	0.000000
738	SISMICA	GLOBAL	0.000000	0.344000	0.000000
739	SISMICA	GLOBAL	0.000000	0.344000	0.000000
740	SISMICA	GLOBAL	0.000000	0.344000	0.000000
750	SISMICA	GLOBAL	0.000000	0.344000	0.000000
751	SISMICA	GLOBAL	0.000000	0.344000	0.000000
752	SISMICA	GLOBAL	0.000000	0.344000	0.000000
753	SISMICA	GLOBAL	0.000000	0.344000	0.000000
754	SISMICA	GLOBAL	0.000000	0.344000	0.000000
755	SISMICA	GLOBAL	0.000000	0.344000	0.000000
756	SISMICA	GLOBAL	0.000000	0.344000	0.000000
757	SISMICA	GLOBAL	0.000000	0.344000	0.000000
758	SISMICA	GLOBAL	0.000000	0.344000	0.000000
759	SISMICA	GLOBAL	0.000000	0.344000	0.000000
760	SISMICA	GLOBAL	0.000000	0.344000	0.000000
761	SISMICA	GLOBAL	0.000000	0.344000	0.000000
762	SISMICA	GLOBAL	0.000000	0.344000	0.000000
763	SISMICA	GLOBAL	0.000000	0.344000	0.000000
764	SISMICA	GLOBAL	0.000000	0.344000	0.000000
765	SISMICA	GLOBAL	0.000000	0.344000	0.000000
766	SISMICA	GLOBAL	0.000000	0.344000	0.000000
767	SISMICA	GLOBAL	0.000000	0.344000	0.000000
768	SISMICA	GLOBAL	0.000000	0.344000	0.000000
769	SISMICA	GLOBAL	0.000000	0.344000	0.000000
770	SISMICA	GLOBAL	0.000000	0.344000	0.000000
771	SISMICA	GLOBAL	0.000000	0.344000	0.000000
772	SISMICA	GLOBAL	0.000000	0.344000	0.000000
773	SISMICA	GLOBAL	0.000000	0.344000	0.000000
774	SISMICA	GLOBAL	0.000000	0.344000	0.000000
784	SISMICA	GLOBAL	0.000000	0.344000	0.000000
785	SISMICA	GLOBAL	0.000000	0.344000	0.000000
786	SISMICA	GLOBAL	0.000000	0.344000	0.000000
787	SISMICA	GLOBAL	0.000000	0.344000	0.000000
788	SISMICA	GLOBAL	0.000000	0.344000	0.000000
789	SISMICA	GLOBAL	0.000000	0.344000	0.000000
790	SISMICA	GLOBAL	0.000000	0.344000	0.000000
791	SISMICA	GLOBAL	0.000000	0.344000	0.000000
792	SISMICA	GLOBAL	0.000000	0.344000	0.000000
793	SISMICA	GLOBAL	0.000000	0.344000	0.000000
794	SISMICA	GLOBAL	0.000000	0.344000	0.000000
795	SISMICA	GLOBAL	0.000000	0.344000	0.000000
796	SISMICA	GLOBAL	0.000000	0.344000	0.000000
797	SISMICA	GLOBAL	0.000000	0.344000	0.000000
798	SISMICA	GLOBAL	0.000000	0.344000	0.000000
799	SISMICA	GLOBAL	0.000000	0.344000	0.000000
800	SISMICA	GLOBAL	0.000000	0.344000	0.000000
801	SISMICA	GLOBAL	0.000000	0.344000	0.000000
802	SISMICA	GLOBAL	0.000000	0.344000	0.000000
803	SISMICA	GLOBAL	0.000000	0.344000	0.000000
804	SISMICA	GLOBAL	0.000000	0.344000	0.000000
805	SISMICA	GLOBAL	0.000000	0.344000	0.000000
806	SISMICA	GLOBAL	0.000000	0.344000	0.000000

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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807	SISMICA	GLOBAL	0.000000	0.344000	0.000000
808	SISMICA	GLOBAL	0.000000	0.344000	0.000000
818	SISMICA	GLOBAL	0.000000	0.344000	0.000000
819	SISMICA	GLOBAL	0.000000	0.344000	0.000000
820	SISMICA	GLOBAL	0.000000	0.344000	0.000000
821	SISMICA	GLOBAL	0.000000	0.344000	0.000000
822	SISMICA	GLOBAL	0.000000	0.344000	0.000000
823	SISMICA	GLOBAL	0.000000	0.344000	0.000000
824	SISMICA	GLOBAL	0.000000	0.344000	0.000000
825	SISMICA	GLOBAL	0.000000	0.344000	0.000000
826	SISMICA	GLOBAL	0.000000	0.344000	0.000000
827	SISMICA	GLOBAL	0.000000	0.344000	0.000000
828	SISMICA	GLOBAL	0.000000	0.344000	0.000000
829	SISMICA	GLOBAL	0.000000	0.344000	0.000000
830	SISMICA	GLOBAL	0.000000	0.344000	0.000000
831	SISMICA	GLOBAL	0.000000	0.344000	0.000000
832	SISMICA	GLOBAL	0.000000	0.344000	0.000000
833	SISMICA	GLOBAL	0.000000	0.344000	0.000000
834	SISMICA	GLOBAL	0.000000	0.344000	0.000000
835	SISMICA	GLOBAL	0.000000	0.344000	0.000000
836	SISMICA	GLOBAL	0.000000	0.344000	0.000000
837	SISMICA	GLOBAL	0.000000	0.344000	0.000000
838	SISMICA	GLOBAL	0.000000	0.344000	0.000000
839	SISMICA	GLOBAL	0.000000	0.344000	0.000000
840	SISMICA	GLOBAL	0.000000	0.344000	0.000000
841	SISMICA	GLOBAL	0.000000	0.344000	0.000000
842	SISMICA	GLOBAL	0.000000	0.344000	0.000000
852	SISMICA	GLOBAL	0.000000	0.344000	0.000000
853	SISMICA	GLOBAL	0.000000	0.344000	0.000000
854	SISMICA	GLOBAL	0.000000	0.344000	0.000000
855	SISMICA	GLOBAL	0.000000	0.344000	0.000000
856	SISMICA	GLOBAL	0.000000	0.344000	0.000000
857	SISMICA	GLOBAL	0.000000	0.344000	0.000000
858	SISMICA	GLOBAL	0.000000	0.344000	0.000000
859	SISMICA	GLOBAL	0.000000	0.344000	0.000000
860	SISMICA	GLOBAL	0.000000	0.344000	0.000000
861	SISMICA	GLOBAL	0.000000	0.344000	0.000000
862	SISMICA	GLOBAL	0.000000	0.344000	0.000000
863	SISMICA	GLOBAL	0.000000	0.344000	0.000000
864	SISMICA	GLOBAL	0.000000	0.344000	0.000000
865	SISMICA	GLOBAL	0.000000	0.344000	0.000000
866	SISMICA	GLOBAL	0.000000	0.344000	0.000000
867	SISMICA	GLOBAL	0.000000	0.344000	0.000000
868	SISMICA	GLOBAL	0.000000	0.344000	0.000000
869	SISMICA	GLOBAL	0.000000	0.344000	0.000000
870	SISMICA	GLOBAL	0.000000	0.344000	0.000000
871	SISMICA	GLOBAL	0.000000	0.344000	0.000000
872	SISMICA	GLOBAL	0.000000	0.344000	0.000000
873	SISMICA	GLOBAL	0.000000	0.344000	0.000000
874	SISMICA	GLOBAL	0.000000	0.344000	0.000000
875	SISMICA	GLOBAL	0.000000	0.344000	0.000000
876	SISMICA	GLOBAL	0.000000	0.344000	0.000000
886	SISMICA	GLOBAL	0.000000	0.344000	0.000000
887	SISMICA	GLOBAL	0.000000	0.344000	0.000000
888	SISMICA	GLOBAL	0.000000	0.344000	0.000000
889	SISMICA	GLOBAL	0.000000	0.344000	0.000000
890	SISMICA	GLOBAL	0.000000	0.344000	0.000000
891	SISMICA	GLOBAL	0.000000	0.344000	0.000000
892	SISMICA	GLOBAL	0.000000	0.344000	0.000000
893	SISMICA	GLOBAL	0.000000	0.344000	0.000000
894	SISMICA	GLOBAL	0.000000	0.344000	0.000000
895	SISMICA	GLOBAL	0.000000	0.344000	0.000000
896	SISMICA	GLOBAL	0.000000	0.344000	0.000000
897	SISMICA	GLOBAL	0.000000	0.344000	0.000000
898	SISMICA	GLOBAL	0.000000	0.344000	0.000000
899	SISMICA	GLOBAL	0.000000	0.344000	0.000000
900	SISMICA	GLOBAL	0.000000	0.344000	0.000000
901	SISMICA	GLOBAL	0.000000	0.344000	0.000000
902	SISMICA	GLOBAL	0.000000	0.344000	0.000000
903	SISMICA	GLOBAL	0.000000	0.344000	0.000000
904	SISMICA	GLOBAL	0.000000	0.344000	0.000000
905	SISMICA	GLOBAL	0.000000	0.344000	0.000000
906	SISMICA	GLOBAL	0.000000	0.344000	0.000000
907	SISMICA	GLOBAL	0.000000	0.344000	0.000000
908	SISMICA	GLOBAL	0.000000	0.344000	0.000000
909	SISMICA	GLOBAL	0.000000	0.344000	0.000000
910	SISMICA	GLOBAL	0.000000	0.344000	0.000000
920	SISMICA	GLOBAL	0.000000	0.344000	0.000000

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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921	SISMICA	GLOBAL	0.000000	0.344000	0.000000
922	SISMICA	GLOBAL	0.000000	0.344000	0.000000
923	SISMICA	GLOBAL	0.000000	0.344000	0.000000
924	SISMICA	GLOBAL	0.000000	0.344000	0.000000
925	SISMICA	GLOBAL	0.000000	0.344000	0.000000
926	SISMICA	GLOBAL	0.000000	0.344000	0.000000
927	SISMICA	GLOBAL	0.000000	0.344000	0.000000
928	SISMICA	GLOBAL	0.000000	0.344000	0.000000
929	SISMICA	GLOBAL	0.000000	0.344000	0.000000
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1001	SISMICA	GLOBAL	0.000000	0.344000	0.000000
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1003	SISMICA	GLOBAL	0.000000	0.344000	0.000000
1004	SISMICA	GLOBAL	0.000000	0.344000	0.000000
1005	SISMICA	GLOBAL	0.000000	0.344000	0.000000
1006	SISMICA	GLOBAL	0.000000	0.344000	0.000000
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1008	SISMICA	GLOBAL	0.000000	0.344000	0.000000
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1010	SISMICA	GLOBAL	0.000000	0.344000	0.000000
1011	SISMICA	GLOBAL	0.000000	0.344000	0.000000
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Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 47 di 416
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1026	SISMICA	GLOBAL	0.000000	0.344000	0.000000			
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1068	SISMICA	GLOBAL	0.000000	0.344000	0.000000			
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1071	SISMICA	GLOBAL	0.000000	0.344000	0.000000			
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1080	SISMICA	GLOBAL	0.000000	0.344000	0.000000			
302	SISMICA	GLOBAL	0.000000	0.344000	0.000000			
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336	SISMICA	GLOBAL	0.000000	0.344000	0.000000			
337	SISMICA	GLOBAL	0.000000	0.344000	0.000000			

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 48 di 416
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338	SISMICA	GLOBAL	0.000000	0.344000	0.000000
339	SISMICA	GLOBAL	0.000000	0.344000	0.000000
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374	SISMICA	GLOBAL	0.000000	0.344000	0.000000
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382	SISMICA	GLOBAL	0.000000	0.344000	0.000000
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387	SISMICA	GLOBAL	0.000000	0.344000	0.000000
388	SISMICA	GLOBAL	0.000000	0.344000	0.000000
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403	SISMICA	GLOBAL	0.000000	0.344000	0.000000
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406	SISMICA	GLOBAL	0.000000	0.344000	0.000000
407	SISMICA	GLOBAL	0.000000	0.344000	0.000000
408	SISMICA	GLOBAL	0.000000	0.344000	0.000000
409	SISMICA	GLOBAL	0.000000	0.344000	0.000000
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411	SISMICA	GLOBAL	0.000000	0.344000	0.000000
412	SISMICA	GLOBAL	0.000000	0.344000	0.000000
414	SISMICA	GLOBAL	0.000000	0.344000	0.000000
415	SISMICA	GLOBAL	0.000000	0.344000	0.000000
416	SISMICA	GLOBAL	0.000000	0.344000	0.000000
417	SISMICA	GLOBAL	0.000000	0.344000	0.000000
418	SISMICA	GLOBAL	0.000000	0.344000	0.000000
419	SISMICA	GLOBAL	0.000000	0.344000	0.000000
420	SISMICA	GLOBAL	0.000000	0.344000	0.000000
422	SISMICA	GLOBAL	0.000000	0.344000	0.000000
423	SISMICA	GLOBAL	0.000000	0.344000	0.000000
424	SISMICA	GLOBAL	0.000000	0.344000	0.000000
425	SISMICA	GLOBAL	0.000000	0.344000	0.000000
426	SISMICA	GLOBAL	0.000000	0.344000	0.000000

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto

2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 49 di 416
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427	SISMICA	GLOBAL	0.000000	0.344000	0.000000			
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438	SISMICA	GLOBAL	0.000000	0.344000	0.000000			
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468	SISMICA	GLOBAL	0.000000	0.344000	0.000000			
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539	SISMICA	GLOBAL	0.000000	0.344000	0.000000			



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 50 di 416
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541	SISMICA	GLOBAL	0.000000	0.344000	0.000000
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578	SISMICA	GLOBAL	0.000000	0.344000	0.000000
579	SISMICA	GLOBAL	0.000000	0.344000	0.000000
605	SISMICA	GLOBAL	0.000000	0.344000	0.000000
606	SISMICA	GLOBAL	0.000000	0.344000	0.000000
607	SISMICA	GLOBAL	0.000000	0.344000	0.000000
608	SISMICA	GLOBAL	0.000000	0.344000	0.000000
609	SISMICA	GLOBAL	0.000000	0.344000	0.000000
610	SISMICA	GLOBAL	0.000000	0.344000	0.000000
611	SISMICA	GLOBAL	0.000000	0.344000	0.000000
612	SISMICA	GLOBAL	0.000000	0.344000	0.000000
613	SISMICA	GLOBAL	0.000000	0.344000	0.000000
639	SISMICA	GLOBAL	0.000000	0.344000	0.000000
640	SISMICA	GLOBAL	0.000000	0.344000	0.000000
641	SISMICA	GLOBAL	0.000000	0.344000	0.000000
642	SISMICA	GLOBAL	0.000000	0.344000	0.000000
643	SISMICA	GLOBAL	0.000000	0.344000	0.000000
644	SISMICA	GLOBAL	0.000000	0.344000	0.000000
645	SISMICA	GLOBAL	0.000000	0.344000	0.000000
646	SISMICA	GLOBAL	0.000000	0.344000	0.000000
647	SISMICA	GLOBAL	0.000000	0.344000	0.000000
673	SISMICA	GLOBAL	0.000000	0.344000	0.000000
674	SISMICA	GLOBAL	0.000000	0.344000	0.000000
675	SISMICA	GLOBAL	0.000000	0.344000	0.000000
676	SISMICA	GLOBAL	0.000000	0.344000	0.000000

Table: Area Loads - Surface Pressure

Area	LoadPat	Face	Pressure KN/m2	JtPattern
512	STATICA	Top	1.00	STATICA
513	STATICA	Top	1.00	STATICA
514	STATICA	Top	1.00	STATICA
515	STATICA	Top	1.00	STATICA
516	STATICA	Top	1.00	STATICA
517	STATICA	Top	1.00	STATICA
518	STATICA	Top	1.00	STATICA
519	STATICA	Top	1.00	STATICA
520	STATICA	Top	1.00	STATICA
521	STATICA	Top	1.00	STATICA
522	STATICA	Top	1.00	STATICA
523	STATICA	Top	1.00	STATICA
524	STATICA	Top	1.00	STATICA
525	STATICA	Top	1.00	STATICA
526	STATICA	Top	1.00	STATICA
527	STATICA	Top	1.00	STATICA
528	STATICA	Top	1.00	STATICA
529	STATICA	Top	1.00	STATICA
530	STATICA	Top	1.00	STATICA
531	STATICA	Top	1.00	STATICA
532	STATICA	Top	1.00	STATICA
533	STATICA	Top	1.00	STATICA
534	STATICA	Top	1.00	STATICA
535	STATICA	Top	1.00	STATICA
536	STATICA	Top	1.00	STATICA
546	STATICA	Top	1.00	STATICA
547	STATICA	Top	1.00	STATICA
548	STATICA	Top	1.00	STATICA
549	STATICA	Top	1.00	STATICA
550	STATICA	Top	1.00	STATICA
551	STATICA	Top	1.00	STATICA
552	STATICA	Top	1.00	STATICA
553	STATICA	Top	1.00	STATICA
554	STATICA	Top	1.00	STATICA

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 51 di 416
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555	STATICA	Top	1.00	STATICA
556	STATICA	Top	1.00	STATICA
557	STATICA	Top	1.00	STATICA
558	STATICA	Top	1.00	STATICA
559	STATICA	Top	1.00	STATICA
560	STATICA	Top	1.00	STATICA
561	STATICA	Top	1.00	STATICA
562	STATICA	Top	1.00	STATICA
563	STATICA	Top	1.00	STATICA
564	STATICA	Top	1.00	STATICA
565	STATICA	Top	1.00	STATICA
566	STATICA	Top	1.00	STATICA
567	STATICA	Top	1.00	STATICA
568	STATICA	Top	1.00	STATICA
569	STATICA	Top	1.00	STATICA
570	STATICA	Top	1.00	STATICA
580	STATICA	Top	1.00	STATICA
581	STATICA	Top	1.00	STATICA
582	STATICA	Top	1.00	STATICA
583	STATICA	Top	1.00	STATICA
584	STATICA	Top	1.00	STATICA
585	STATICA	Top	1.00	STATICA
586	STATICA	Top	1.00	STATICA
587	STATICA	Top	1.00	STATICA
588	STATICA	Top	1.00	STATICA
589	STATICA	Top	1.00	STATICA
590	STATICA	Top	1.00	STATICA
591	STATICA	Top	1.00	STATICA
592	STATICA	Top	1.00	STATICA
593	STATICA	Top	1.00	STATICA
594	STATICA	Top	1.00	STATICA
595	STATICA	Top	1.00	STATICA
596	STATICA	Top	1.00	STATICA
597	STATICA	Top	1.00	STATICA
598	STATICA	Top	1.00	STATICA
599	STATICA	Top	1.00	STATICA
600	STATICA	Top	1.00	STATICA
601	STATICA	Top	1.00	STATICA
602	STATICA	Top	1.00	STATICA
603	STATICA	Top	1.00	STATICA
604	STATICA	Top	1.00	STATICA
614	STATICA	Top	1.00	STATICA
615	STATICA	Top	1.00	STATICA
616	STATICA	Top	1.00	STATICA
617	STATICA	Top	1.00	STATICA
618	STATICA	Top	1.00	STATICA
619	STATICA	Top	1.00	STATICA
620	STATICA	Top	1.00	STATICA
621	STATICA	Top	1.00	STATICA
622	STATICA	Top	1.00	STATICA
623	STATICA	Top	1.00	STATICA
624	STATICA	Top	1.00	STATICA
625	STATICA	Top	1.00	STATICA
626	STATICA	Top	1.00	STATICA
627	STATICA	Top	1.00	STATICA
628	STATICA	Top	1.00	STATICA
629	STATICA	Top	1.00	STATICA
630	STATICA	Top	1.00	STATICA
631	STATICA	Top	1.00	STATICA
632	STATICA	Top	1.00	STATICA
633	STATICA	Top	1.00	STATICA
634	STATICA	Top	1.00	STATICA
635	STATICA	Top	1.00	STATICA
636	STATICA	Top	1.00	STATICA
637	STATICA	Top	1.00	STATICA
638	STATICA	Top	1.00	STATICA
648	STATICA	Top	1.00	STATICA
649	STATICA	Top	1.00	STATICA
650	STATICA	Top	1.00	STATICA
651	STATICA	Top	1.00	STATICA
652	STATICA	Top	1.00	STATICA
653	STATICA	Top	1.00	STATICA
654	STATICA	Top	1.00	STATICA
655	STATICA	Top	1.00	STATICA
656	STATICA	Top	1.00	STATICA
657	STATICA	Top	1.00	STATICA
658	STATICA	Top	1.00	STATICA
659	STATICA	Top	1.00	STATICA

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 52 di 416
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660	STATICA	Top	1.00	STATICA
661	STATICA	Top	1.00	STATICA
662	STATICA	Top	1.00	STATICA
663	STATICA	Top	1.00	STATICA
664	STATICA	Top	1.00	STATICA
665	STATICA	Top	1.00	STATICA
666	STATICA	Top	1.00	STATICA
667	STATICA	Top	1.00	STATICA
668	STATICA	Top	1.00	STATICA
669	STATICA	Top	1.00	STATICA
670	STATICA	Top	1.00	STATICA
671	STATICA	Top	1.00	STATICA
672	STATICA	Top	1.00	STATICA
682	STATICA	Top	1.00	STATICA
683	STATICA	Top	1.00	STATICA
684	STATICA	Top	1.00	STATICA
685	STATICA	Top	1.00	STATICA
686	STATICA	Top	1.00	STATICA
687	STATICA	Top	1.00	STATICA
688	STATICA	Top	1.00	STATICA
689	STATICA	Top	1.00	STATICA
690	STATICA	Top	1.00	STATICA
691	STATICA	Top	1.00	STATICA
692	STATICA	Top	1.00	STATICA
693	STATICA	Top	1.00	STATICA
694	STATICA	Top	1.00	STATICA
695	STATICA	Top	1.00	STATICA
696	STATICA	Top	1.00	STATICA
697	STATICA	Top	1.00	STATICA
698	STATICA	Top	1.00	STATICA
699	STATICA	Top	1.00	STATICA
700	STATICA	Top	1.00	STATICA
701	STATICA	Top	1.00	STATICA
702	STATICA	Top	1.00	STATICA
703	STATICA	Top	1.00	STATICA
704	STATICA	Top	1.00	STATICA
705	STATICA	Top	1.00	STATICA
706	STATICA	Top	1.00	STATICA
716	STATICA	Top	1.00	STATICA
717	STATICA	Top	1.00	STATICA
718	STATICA	Top	1.00	STATICA
719	STATICA	Top	1.00	STATICA
720	STATICA	Top	1.00	STATICA
721	STATICA	Top	1.00	STATICA
722	STATICA	Top	1.00	STATICA
723	STATICA	Top	1.00	STATICA
724	STATICA	Top	1.00	STATICA
725	STATICA	Top	1.00	STATICA
726	STATICA	Top	1.00	STATICA
727	STATICA	Top	1.00	STATICA
728	STATICA	Top	1.00	STATICA
729	STATICA	Top	1.00	STATICA
730	STATICA	Top	1.00	STATICA
731	STATICA	Top	1.00	STATICA
732	STATICA	Top	1.00	STATICA
733	STATICA	Top	1.00	STATICA
734	STATICA	Top	1.00	STATICA
735	STATICA	Top	1.00	STATICA
736	STATICA	Top	1.00	STATICA
737	STATICA	Top	1.00	STATICA
738	STATICA	Top	1.00	STATICA
739	STATICA	Top	1.00	STATICA
740	STATICA	Top	1.00	STATICA
750	STATICA	Top	1.00	STATICA
751	STATICA	Top	1.00	STATICA
752	STATICA	Top	1.00	STATICA
753	STATICA	Top	1.00	STATICA
754	STATICA	Top	1.00	STATICA
755	STATICA	Top	1.00	STATICA
756	STATICA	Top	1.00	STATICA
757	STATICA	Top	1.00	STATICA
758	STATICA	Top	1.00	STATICA
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760	STATICA	Top	1.00	STATICA
761	STATICA	Top	1.00	STATICA
762	STATICA	Top	1.00	STATICA
763	STATICA	Top	1.00	STATICA
764	STATICA	Top	1.00	STATICA



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 53 di 416
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765	STATICA	Top	1.00	STATICA
766	STATICA	Top	1.00	STATICA
767	STATICA	Top	1.00	STATICA
768	STATICA	Top	1.00	STATICA
769	STATICA	Top	1.00	STATICA
770	STATICA	Top	1.00	STATICA
771	STATICA	Top	1.00	STATICA
772	STATICA	Top	1.00	STATICA
773	STATICA	Top	1.00	STATICA
774	STATICA	Top	1.00	STATICA
784	STATICA	Top	1.00	STATICA
785	STATICA	Top	1.00	STATICA
786	STATICA	Top	1.00	STATICA
787	STATICA	Top	1.00	STATICA
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789	STATICA	Top	1.00	STATICA
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791	STATICA	Top	1.00	STATICA
792	STATICA	Top	1.00	STATICA
793	STATICA	Top	1.00	STATICA
794	STATICA	Top	1.00	STATICA
795	STATICA	Top	1.00	STATICA
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798	STATICA	Top	1.00	STATICA
799	STATICA	Top	1.00	STATICA
800	STATICA	Top	1.00	STATICA
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802	STATICA	Top	1.00	STATICA
803	STATICA	Top	1.00	STATICA
804	STATICA	Top	1.00	STATICA
805	STATICA	Top	1.00	STATICA
806	STATICA	Top	1.00	STATICA
807	STATICA	Top	1.00	STATICA
808	STATICA	Top	1.00	STATICA
818	STATICA	Top	1.00	STATICA
819	STATICA	Top	1.00	STATICA
820	STATICA	Top	1.00	STATICA
821	STATICA	Top	1.00	STATICA
822	STATICA	Top	1.00	STATICA
823	STATICA	Top	1.00	STATICA
824	STATICA	Top	1.00	STATICA
825	STATICA	Top	1.00	STATICA
826	STATICA	Top	1.00	STATICA
827	STATICA	Top	1.00	STATICA
828	STATICA	Top	1.00	STATICA
829	STATICA	Top	1.00	STATICA
830	STATICA	Top	1.00	STATICA
831	STATICA	Top	1.00	STATICA
832	STATICA	Top	1.00	STATICA
833	STATICA	Top	1.00	STATICA
834	STATICA	Top	1.00	STATICA
835	STATICA	Top	1.00	STATICA
836	STATICA	Top	1.00	STATICA
837	STATICA	Top	1.00	STATICA
838	STATICA	Top	1.00	STATICA
839	STATICA	Top	1.00	STATICA
840	STATICA	Top	1.00	STATICA
841	STATICA	Top	1.00	STATICA
842	STATICA	Top	1.00	STATICA
852	STATICA	Top	1.00	STATICA
853	STATICA	Top	1.00	STATICA
854	STATICA	Top	1.00	STATICA
855	STATICA	Top	1.00	STATICA
856	STATICA	Top	1.00	STATICA
857	STATICA	Top	1.00	STATICA
858	STATICA	Top	1.00	STATICA
859	STATICA	Top	1.00	STATICA
860	STATICA	Top	1.00	STATICA
861	STATICA	Top	1.00	STATICA
862	STATICA	Top	1.00	STATICA
863	STATICA	Top	1.00	STATICA
864	STATICA	Top	1.00	STATICA
865	STATICA	Top	1.00	STATICA
866	STATICA	Top	1.00	STATICA
867	STATICA	Top	1.00	STATICA
868	STATICA	Top	1.00	STATICA
869	STATICA	Top	1.00	STATICA



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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870	STATICA	Top	1.00	STATICA
871	STATICA	Top	1.00	STATICA
872	STATICA	Top	1.00	STATICA
873	STATICA	Top	1.00	STATICA
874	STATICA	Top	1.00	STATICA
875	STATICA	Top	1.00	STATICA
876	STATICA	Top	1.00	STATICA
886	STATICA	Top	1.00	STATICA
887	STATICA	Top	1.00	STATICA
888	STATICA	Top	1.00	STATICA
889	STATICA	Top	1.00	STATICA
890	STATICA	Top	1.00	STATICA
891	STATICA	Top	1.00	STATICA
892	STATICA	Top	1.00	STATICA
893	STATICA	Top	1.00	STATICA
894	STATICA	Top	1.00	STATICA
895	STATICA	Top	1.00	STATICA
896	STATICA	Top	1.00	STATICA
897	STATICA	Top	1.00	STATICA
898	STATICA	Top	1.00	STATICA
899	STATICA	Top	1.00	STATICA
900	STATICA	Top	1.00	STATICA
901	STATICA	Top	1.00	STATICA
902	STATICA	Top	1.00	STATICA
903	STATICA	Top	1.00	STATICA
904	STATICA	Top	1.00	STATICA
905	STATICA	Top	1.00	STATICA
906	STATICA	Top	1.00	STATICA
907	STATICA	Top	1.00	STATICA
908	STATICA	Top	1.00	STATICA
909	STATICA	Top	1.00	STATICA
910	STATICA	Top	1.00	STATICA
920	STATICA	Top	1.00	STATICA
921	STATICA	Top	1.00	STATICA
922	STATICA	Top	1.00	STATICA
923	STATICA	Top	1.00	STATICA
924	STATICA	Top	1.00	STATICA
925	STATICA	Top	1.00	STATICA
926	STATICA	Top	1.00	STATICA
927	STATICA	Top	1.00	STATICA
928	STATICA	Top	1.00	STATICA
929	STATICA	Top	1.00	STATICA
930	STATICA	Top	1.00	STATICA
931	STATICA	Top	1.00	STATICA
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939	STATICA	Top	1.00	STATICA
940	STATICA	Top	1.00	STATICA
941	STATICA	Top	1.00	STATICA
942	STATICA	Top	1.00	STATICA
943	STATICA	Top	1.00	STATICA
944	STATICA	Top	1.00	STATICA
954	STATICA	Top	1.00	STATICA
955	STATICA	Top	1.00	STATICA
956	STATICA	Top	1.00	STATICA
957	STATICA	Top	1.00	STATICA
958	STATICA	Top	1.00	STATICA
959	STATICA	Top	1.00	STATICA
960	STATICA	Top	1.00	STATICA
961	STATICA	Top	1.00	STATICA
962	STATICA	Top	1.00	STATICA
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967	STATICA	Top	1.00	STATICA
968	STATICA	Top	1.00	STATICA
969	STATICA	Top	1.00	STATICA
970	STATICA	Top	1.00	STATICA
971	STATICA	Top	1.00	STATICA
972	STATICA	Top	1.00	STATICA
973	STATICA	Top	1.00	STATICA
974	STATICA	Top	1.00	STATICA



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 55 di 416
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975	STATICA	Top	1.00	STATICA
976	STATICA	Top	1.00	STATICA
977	STATICA	Top	1.00	STATICA
978	STATICA	Top	1.00	STATICA
988	STATICA	Top	1.00	STATICA
989	STATICA	Top	1.00	STATICA
990	STATICA	Top	1.00	STATICA
991	STATICA	Top	1.00	STATICA
992	STATICA	Top	1.00	STATICA
993	STATICA	Top	1.00	STATICA
994	STATICA	Top	1.00	STATICA
995	STATICA	Top	1.00	STATICA
996	STATICA	Top	1.00	STATICA
997	STATICA	Top	1.00	STATICA
998	STATICA	Top	1.00	STATICA
999	STATICA	Top	1.00	STATICA
1000	STATICA	Top	1.00	STATICA
1001	STATICA	Top	1.00	STATICA
1002	STATICA	Top	1.00	STATICA
1003	STATICA	Top	1.00	STATICA
1004	STATICA	Top	1.00	STATICA
1005	STATICA	Top	1.00	STATICA
1006	STATICA	Top	1.00	STATICA
1007	STATICA	Top	1.00	STATICA
1008	STATICA	Top	1.00	STATICA
1009	STATICA	Top	1.00	STATICA
1010	STATICA	Top	1.00	STATICA
1011	STATICA	Top	1.00	STATICA
1012	STATICA	Top	1.00	STATICA
1022	STATICA	Top	1.00	STATICA
1023	STATICA	Top	1.00	STATICA
1024	STATICA	Top	1.00	STATICA
1025	STATICA	Top	1.00	STATICA
1026	STATICA	Top	1.00	STATICA
1027	STATICA	Top	1.00	STATICA
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1035	STATICA	Top	1.00	STATICA
1036	STATICA	Top	1.00	STATICA
1037	STATICA	Top	1.00	STATICA
1038	STATICA	Top	1.00	STATICA
1039	STATICA	Top	1.00	STATICA
1040	STATICA	Top	1.00	STATICA
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1042	STATICA	Top	1.00	STATICA
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1065	STATICA	Top	1.00	STATICA
1066	STATICA	Top	1.00	STATICA
1067	STATICA	Top	1.00	STATICA
1068	STATICA	Top	1.00	STATICA
1069	STATICA	Top	1.00	STATICA
1070	STATICA	Top	1.00	STATICA
1071	STATICA	Top	1.00	STATICA
1072	STATICA	Top	1.00	STATICA
1073	STATICA	Top	1.00	STATICA
1074	STATICA	Top	1.00	STATICA
1075	STATICA	Top	1.00	STATICA
1076	STATICA	Top	1.00	STATICA
1077	STATICA	Top	1.00	STATICA
1078	STATICA	Top	1.00	STATICA
1079	STATICA	Top	1.00	STATICA



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 56 di 416
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1080	STATICA	Top	1.00	STATICA
302	STATICA	Top	1.00	STATICA
303	STATICA	Top	1.00	STATICA
304	STATICA	Top	1.00	STATICA
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2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 57 di 416
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2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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Table: Area Loads - Uniform

Area	LoadPat	CoordSys	Dir	UnifLoad KN/m2
512	SOVRAC	GLOBAL	Y	8.52



QUADRILATERO
Marche Umbria S.p.A.

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto

2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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512	SISMICA	GLOBAL	Y	23.38
513	SOVRAC	GLOBAL	Y	8.52
513	SISMICA	GLOBAL	Y	23.38
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559	SOVRAC	GLOBAL	Y	8.52
559	SISMICA	GLOBAL	Y	23.38
560	SOVRAC	GLOBAL	Y	8.52

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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664	SISMICA	GLOBAL	Y	23.38
665	SOVRAC	GLOBAL	Y	8.52



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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665	SISMICA	GLOBAL	Y	23.38
666	SOVRAC	GLOBAL	Y	8.52
666	SISMICA	GLOBAL	Y	23.38
667	SOVRAC	GLOBAL	Y	8.52
667	SISMICA	GLOBAL	Y	23.38
668	SOVRAC	GLOBAL	Y	8.52
668	SISMICA	GLOBAL	Y	23.38
669	SOVRAC	GLOBAL	Y	8.52
669	SISMICA	GLOBAL	Y	23.38
670	SOVRAC	GLOBAL	Y	8.52
670	SISMICA	GLOBAL	Y	23.38
671	SOVRAC	GLOBAL	Y	8.52
671	SISMICA	GLOBAL	Y	23.38
672	SOVRAC	GLOBAL	Y	8.52
672	SISMICA	GLOBAL	Y	23.38
682	SOVRAC	GLOBAL	Y	8.52
682	SISMICA	GLOBAL	Y	23.38
683	SOVRAC	GLOBAL	Y	8.52
683	SISMICA	GLOBAL	Y	23.38
684	SOVRAC	GLOBAL	Y	8.52
684	SISMICA	GLOBAL	Y	23.38
685	SOVRAC	GLOBAL	Y	8.52
685	SISMICA	GLOBAL	Y	23.38
686	SOVRAC	GLOBAL	Y	8.52
686	SISMICA	GLOBAL	Y	23.38
687	SOVRAC	GLOBAL	Y	8.52
687	SISMICA	GLOBAL	Y	23.38
688	SOVRAC	GLOBAL	Y	8.52
688	SISMICA	GLOBAL	Y	23.38
689	SOVRAC	GLOBAL	Y	8.52
689	SISMICA	GLOBAL	Y	23.38
690	SOVRAC	GLOBAL	Y	8.52
690	SISMICA	GLOBAL	Y	23.38
691	SOVRAC	GLOBAL	Y	8.52
691	SISMICA	GLOBAL	Y	23.38
692	SOVRAC	GLOBAL	Y	8.52
692	SISMICA	GLOBAL	Y	23.38
693	SOVRAC	GLOBAL	Y	8.52
693	SISMICA	GLOBAL	Y	23.38
694	SOVRAC	GLOBAL	Y	8.52
694	SISMICA	GLOBAL	Y	23.38
695	SOVRAC	GLOBAL	Y	8.52
695	SISMICA	GLOBAL	Y	23.38
696	SOVRAC	GLOBAL	Y	8.52
696	SISMICA	GLOBAL	Y	23.38
697	SOVRAC	GLOBAL	Y	8.52
697	SISMICA	GLOBAL	Y	23.38
698	SOVRAC	GLOBAL	Y	8.52
698	SISMICA	GLOBAL	Y	23.38
699	SOVRAC	GLOBAL	Y	8.52
699	SISMICA	GLOBAL	Y	23.38
700	SOVRAC	GLOBAL	Y	8.52
700	SISMICA	GLOBAL	Y	23.38
701	SOVRAC	GLOBAL	Y	8.52
701	SISMICA	GLOBAL	Y	23.38
702	SOVRAC	GLOBAL	Y	8.52
702	SISMICA	GLOBAL	Y	23.38
703	SOVRAC	GLOBAL	Y	8.52
703	SISMICA	GLOBAL	Y	23.38
704	SOVRAC	GLOBAL	Y	8.52
704	SISMICA	GLOBAL	Y	23.38
705	SOVRAC	GLOBAL	Y	8.52
705	SISMICA	GLOBAL	Y	23.38
706	SOVRAC	GLOBAL	Y	8.52
706	SISMICA	GLOBAL	Y	23.38
716	SOVRAC	GLOBAL	Y	8.52
716	SISMICA	GLOBAL	Y	23.38
717	SOVRAC	GLOBAL	Y	8.52
717	SISMICA	GLOBAL	Y	23.38
718	SOVRAC	GLOBAL	Y	8.52
718	SISMICA	GLOBAL	Y	23.38
719	SOVRAC	GLOBAL	Y	8.52
719	SISMICA	GLOBAL	Y	23.38
720	SOVRAC	GLOBAL	Y	8.52
720	SISMICA	GLOBAL	Y	23.38
721	SOVRAC	GLOBAL	Y	8.52
721	SISMICA	GLOBAL	Y	23.38
722	SOVRAC	GLOBAL	Y	8.52

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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722	SISMICA	GLOBAL	Y	23.38
723	SOVRAC	GLOBAL	Y	8.52
723	SISMICA	GLOBAL	Y	23.38
724	SOVRAC	GLOBAL	Y	8.52
724	SISMICA	GLOBAL	Y	23.38
725	SOVRAC	GLOBAL	Y	8.52
725	SISMICA	GLOBAL	Y	23.38
726	SOVRAC	GLOBAL	Y	8.52
726	SISMICA	GLOBAL	Y	23.38
727	SOVRAC	GLOBAL	Y	8.52
727	SISMICA	GLOBAL	Y	23.38
728	SOVRAC	GLOBAL	Y	8.52
728	SISMICA	GLOBAL	Y	23.38
729	SOVRAC	GLOBAL	Y	8.52
729	SISMICA	GLOBAL	Y	23.38
730	SOVRAC	GLOBAL	Y	8.52
730	SISMICA	GLOBAL	Y	23.38
731	SOVRAC	GLOBAL	Y	8.52
731	SISMICA	GLOBAL	Y	23.38
732	SOVRAC	GLOBAL	Y	8.52
732	SISMICA	GLOBAL	Y	23.38
733	SOVRAC	GLOBAL	Y	8.52
733	SISMICA	GLOBAL	Y	23.38
734	SOVRAC	GLOBAL	Y	8.52
734	SISMICA	GLOBAL	Y	23.38
735	SOVRAC	GLOBAL	Y	8.52
735	SISMICA	GLOBAL	Y	23.38
736	SOVRAC	GLOBAL	Y	8.52
736	SISMICA	GLOBAL	Y	23.38
737	SOVRAC	GLOBAL	Y	8.52
737	SISMICA	GLOBAL	Y	23.38
738	SOVRAC	GLOBAL	Y	8.52
738	SISMICA	GLOBAL	Y	23.38
739	SOVRAC	GLOBAL	Y	8.52
739	SISMICA	GLOBAL	Y	23.38
740	SOVRAC	GLOBAL	Y	8.52
740	SISMICA	GLOBAL	Y	23.38
750	SOVRAC	GLOBAL	Y	8.52
750	SISMICA	GLOBAL	Y	23.38
751	SOVRAC	GLOBAL	Y	8.52
751	SISMICA	GLOBAL	Y	23.38
752	SOVRAC	GLOBAL	Y	8.52
752	SISMICA	GLOBAL	Y	23.38
753	SOVRAC	GLOBAL	Y	8.52
753	SISMICA	GLOBAL	Y	23.38
754	SOVRAC	GLOBAL	Y	8.52
754	SISMICA	GLOBAL	Y	23.38
755	SOVRAC	GLOBAL	Y	8.52
755	SISMICA	GLOBAL	Y	23.38
756	SOVRAC	GLOBAL	Y	8.52
756	SISMICA	GLOBAL	Y	23.38
757	SOVRAC	GLOBAL	Y	8.52
757	SISMICA	GLOBAL	Y	23.38
758	SOVRAC	GLOBAL	Y	8.52
758	SISMICA	GLOBAL	Y	23.38
759	SOVRAC	GLOBAL	Y	8.52
759	SISMICA	GLOBAL	Y	23.38
760	SOVRAC	GLOBAL	Y	8.52
760	SISMICA	GLOBAL	Y	23.38
761	SOVRAC	GLOBAL	Y	8.52
761	SISMICA	GLOBAL	Y	23.38
762	SOVRAC	GLOBAL	Y	8.52
762	SISMICA	GLOBAL	Y	23.38
763	SOVRAC	GLOBAL	Y	8.52
763	SISMICA	GLOBAL	Y	23.38
764	SOVRAC	GLOBAL	Y	8.52
764	SISMICA	GLOBAL	Y	23.38
765	SOVRAC	GLOBAL	Y	8.52
765	SISMICA	GLOBAL	Y	23.38
766	SOVRAC	GLOBAL	Y	8.52
766	SISMICA	GLOBAL	Y	23.38
767	SOVRAC	GLOBAL	Y	8.52
767	SISMICA	GLOBAL	Y	23.38
768	SOVRAC	GLOBAL	Y	8.52
768	SISMICA	GLOBAL	Y	23.38
769	SOVRAC	GLOBAL	Y	8.52
769	SISMICA	GLOBAL	Y	23.38
770	SOVRAC	GLOBAL	Y	8.52



QUADRILATERO
Marche Umbria S.p.A.

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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770	SISMICA	GLOBAL	Y	23.38
771	SOVRAC	GLOBAL	Y	8.52
771	SISMICA	GLOBAL	Y	23.38
772	SOVRAC	GLOBAL	Y	8.52
772	SISMICA	GLOBAL	Y	23.38
773	SOVRAC	GLOBAL	Y	8.52
773	SISMICA	GLOBAL	Y	23.38
774	SOVRAC	GLOBAL	Y	8.52
774	SISMICA	GLOBAL	Y	23.38
784	SOVRAC	GLOBAL	Y	8.52
784	SISMICA	GLOBAL	Y	23.38
785	SOVRAC	GLOBAL	Y	8.52
785	SISMICA	GLOBAL	Y	23.38
786	SOVRAC	GLOBAL	Y	8.52
786	SISMICA	GLOBAL	Y	23.38
787	SOVRAC	GLOBAL	Y	8.52
787	SISMICA	GLOBAL	Y	23.38
788	SOVRAC	GLOBAL	Y	8.52
788	SISMICA	GLOBAL	Y	23.38
789	SOVRAC	GLOBAL	Y	8.52
789	SISMICA	GLOBAL	Y	23.38
790	SOVRAC	GLOBAL	Y	8.52
790	SISMICA	GLOBAL	Y	23.38
791	SOVRAC	GLOBAL	Y	8.52
791	SISMICA	GLOBAL	Y	23.38
792	SOVRAC	GLOBAL	Y	8.52
792	SISMICA	GLOBAL	Y	23.38
793	SOVRAC	GLOBAL	Y	8.52
793	SISMICA	GLOBAL	Y	23.38
794	SOVRAC	GLOBAL	Y	8.52
794	SISMICA	GLOBAL	Y	23.38
795	SOVRAC	GLOBAL	Y	8.52
795	SISMICA	GLOBAL	Y	23.38
796	SOVRAC	GLOBAL	Y	8.52
796	SISMICA	GLOBAL	Y	23.38
797	SOVRAC	GLOBAL	Y	8.52
797	SISMICA	GLOBAL	Y	23.38
798	SOVRAC	GLOBAL	Y	8.52
798	SISMICA	GLOBAL	Y	23.38
799	SOVRAC	GLOBAL	Y	8.52
799	SISMICA	GLOBAL	Y	23.38
800	SOVRAC	GLOBAL	Y	8.52
800	SISMICA	GLOBAL	Y	23.38
801	SOVRAC	GLOBAL	Y	8.52
801	SISMICA	GLOBAL	Y	23.38
802	SOVRAC	GLOBAL	Y	8.52
802	SISMICA	GLOBAL	Y	23.38
803	SOVRAC	GLOBAL	Y	8.52
803	SISMICA	GLOBAL	Y	23.38
804	SOVRAC	GLOBAL	Y	8.52
804	SISMICA	GLOBAL	Y	23.38
805	SOVRAC	GLOBAL	Y	8.52
805	SISMICA	GLOBAL	Y	23.38
806	SOVRAC	GLOBAL	Y	8.52
806	SISMICA	GLOBAL	Y	23.38
807	SOVRAC	GLOBAL	Y	8.52
807	SISMICA	GLOBAL	Y	23.38
808	SOVRAC	GLOBAL	Y	8.52
808	SISMICA	GLOBAL	Y	23.38
818	SOVRAC	GLOBAL	Y	8.52
818	SISMICA	GLOBAL	Y	23.38
819	SOVRAC	GLOBAL	Y	8.52
819	SISMICA	GLOBAL	Y	23.38
820	SOVRAC	GLOBAL	Y	8.52
820	SISMICA	GLOBAL	Y	23.38
821	SOVRAC	GLOBAL	Y	8.52
821	SISMICA	GLOBAL	Y	23.38
822	SOVRAC	GLOBAL	Y	8.52
822	SISMICA	GLOBAL	Y	23.38
823	SOVRAC	GLOBAL	Y	8.52
823	SISMICA	GLOBAL	Y	23.38
824	SOVRAC	GLOBAL	Y	8.52
824	SISMICA	GLOBAL	Y	23.38
825	SOVRAC	GLOBAL	Y	8.52
825	SISMICA	GLOBAL	Y	23.38
826	SOVRAC	GLOBAL	Y	8.52
826	SISMICA	GLOBAL	Y	23.38
827	SOVRAC	GLOBAL	Y	8.52



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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827	SISMICA	GLOBAL	Y	23.38
828	SOVRAC	GLOBAL	Y	8.52
828	SISMICA	GLOBAL	Y	23.38
829	SOVRAC	GLOBAL	Y	8.52
829	SISMICA	GLOBAL	Y	23.38
830	SOVRAC	GLOBAL	Y	8.52
830	SISMICA	GLOBAL	Y	23.38
831	SOVRAC	GLOBAL	Y	8.52
831	SISMICA	GLOBAL	Y	23.38
832	SOVRAC	GLOBAL	Y	8.52
832	SISMICA	GLOBAL	Y	23.38
833	SOVRAC	GLOBAL	Y	8.52
833	SISMICA	GLOBAL	Y	23.38
834	SOVRAC	GLOBAL	Y	8.52
834	SISMICA	GLOBAL	Y	23.38
835	SOVRAC	GLOBAL	Y	8.52
835	SISMICA	GLOBAL	Y	23.38
836	SOVRAC	GLOBAL	Y	8.52
836	SISMICA	GLOBAL	Y	23.38
837	SOVRAC	GLOBAL	Y	8.52
837	SISMICA	GLOBAL	Y	23.38
838	SOVRAC	GLOBAL	Y	8.52
838	SISMICA	GLOBAL	Y	23.38
839	SOVRAC	GLOBAL	Y	8.52
839	SISMICA	GLOBAL	Y	23.38
840	SOVRAC	GLOBAL	Y	8.52
840	SISMICA	GLOBAL	Y	23.38
841	SOVRAC	GLOBAL	Y	8.52
841	SISMICA	GLOBAL	Y	23.38
842	SOVRAC	GLOBAL	Y	8.52
842	SISMICA	GLOBAL	Y	23.38
852	SOVRAC	GLOBAL	Y	8.52
852	SISMICA	GLOBAL	Y	23.38
853	SOVRAC	GLOBAL	Y	8.52
853	SISMICA	GLOBAL	Y	23.38
854	SOVRAC	GLOBAL	Y	8.52
854	SISMICA	GLOBAL	Y	23.38
855	SOVRAC	GLOBAL	Y	8.52
855	SISMICA	GLOBAL	Y	23.38
856	SOVRAC	GLOBAL	Y	8.52
856	SISMICA	GLOBAL	Y	23.38
857	SOVRAC	GLOBAL	Y	8.52
857	SISMICA	GLOBAL	Y	23.38
858	SOVRAC	GLOBAL	Y	8.52
858	SISMICA	GLOBAL	Y	23.38
859	SOVRAC	GLOBAL	Y	8.52
859	SISMICA	GLOBAL	Y	23.38
860	SOVRAC	GLOBAL	Y	8.52
860	SISMICA	GLOBAL	Y	23.38
861	SOVRAC	GLOBAL	Y	8.52
861	SISMICA	GLOBAL	Y	23.38
862	SOVRAC	GLOBAL	Y	8.52
862	SISMICA	GLOBAL	Y	23.38
863	SOVRAC	GLOBAL	Y	8.52
863	SISMICA	GLOBAL	Y	23.38
864	SOVRAC	GLOBAL	Y	8.52
864	SISMICA	GLOBAL	Y	23.38
865	SOVRAC	GLOBAL	Y	8.52
865	SISMICA	GLOBAL	Y	23.38
866	SOVRAC	GLOBAL	Y	8.52
866	SISMICA	GLOBAL	Y	23.38
867	SOVRAC	GLOBAL	Y	8.52
867	SISMICA	GLOBAL	Y	23.38
868	SOVRAC	GLOBAL	Y	8.52
868	SISMICA	GLOBAL	Y	23.38
869	SOVRAC	GLOBAL	Y	8.52
869	SISMICA	GLOBAL	Y	23.38
870	SOVRAC	GLOBAL	Y	8.52
870	SISMICA	GLOBAL	Y	23.38
871	SOVRAC	GLOBAL	Y	8.52
871	SISMICA	GLOBAL	Y	23.38
872	SOVRAC	GLOBAL	Y	8.52
872	SISMICA	GLOBAL	Y	23.38
873	SOVRAC	GLOBAL	Y	8.52
873	SISMICA	GLOBAL	Y	23.38
874	SOVRAC	GLOBAL	Y	8.52
874	SISMICA	GLOBAL	Y	23.38
875	SOVRAC	GLOBAL	Y	8.52



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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875	SISMICA	GLOBAL	Y	23.38
876	SOVRAC	GLOBAL	Y	8.52
876	SISMICA	GLOBAL	Y	23.38
886	SOVRAC	GLOBAL	Y	8.52
886	SISMICA	GLOBAL	Y	23.38
887	SOVRAC	GLOBAL	Y	8.52
887	SISMICA	GLOBAL	Y	23.38
888	SOVRAC	GLOBAL	Y	8.52
888	SISMICA	GLOBAL	Y	23.38
889	SOVRAC	GLOBAL	Y	8.52
889	SISMICA	GLOBAL	Y	23.38
890	SOVRAC	GLOBAL	Y	8.52
890	SISMICA	GLOBAL	Y	23.38
891	SOVRAC	GLOBAL	Y	8.52
891	SISMICA	GLOBAL	Y	23.38
892	SOVRAC	GLOBAL	Y	8.52
892	SISMICA	GLOBAL	Y	23.38
893	SOVRAC	GLOBAL	Y	8.52
893	SISMICA	GLOBAL	Y	23.38
894	SOVRAC	GLOBAL	Y	8.52
894	SISMICA	GLOBAL	Y	23.38
895	SOVRAC	GLOBAL	Y	8.52
895	SISMICA	GLOBAL	Y	23.38
896	SOVRAC	GLOBAL	Y	8.52
896	SISMICA	GLOBAL	Y	23.38
897	SOVRAC	GLOBAL	Y	8.52
897	SISMICA	GLOBAL	Y	23.38
898	SOVRAC	GLOBAL	Y	8.52
898	SISMICA	GLOBAL	Y	23.38
899	SOVRAC	GLOBAL	Y	8.52
899	SISMICA	GLOBAL	Y	23.38
900	SOVRAC	GLOBAL	Y	8.52
900	SISMICA	GLOBAL	Y	23.38
901	SOVRAC	GLOBAL	Y	8.52
901	SISMICA	GLOBAL	Y	23.38
902	SOVRAC	GLOBAL	Y	8.52
902	SISMICA	GLOBAL	Y	23.38
903	SOVRAC	GLOBAL	Y	8.52
903	SISMICA	GLOBAL	Y	23.38
904	SOVRAC	GLOBAL	Y	8.52
904	SISMICA	GLOBAL	Y	23.38
905	SOVRAC	GLOBAL	Y	8.52
905	SISMICA	GLOBAL	Y	23.38
906	SOVRAC	GLOBAL	Y	8.52
906	SISMICA	GLOBAL	Y	23.38
907	SOVRAC	GLOBAL	Y	8.52
907	SISMICA	GLOBAL	Y	23.38
908	SOVRAC	GLOBAL	Y	8.52
908	SISMICA	GLOBAL	Y	23.38
909	SOVRAC	GLOBAL	Y	8.52
909	SISMICA	GLOBAL	Y	23.38
910	SOVRAC	GLOBAL	Y	8.52
910	SISMICA	GLOBAL	Y	23.38
920	SOVRAC	GLOBAL	Y	8.52
920	SISMICA	GLOBAL	Y	23.38
921	SOVRAC	GLOBAL	Y	8.52
921	SISMICA	GLOBAL	Y	23.38
922	SOVRAC	GLOBAL	Y	8.52
922	SISMICA	GLOBAL	Y	23.38
923	SOVRAC	GLOBAL	Y	8.52
923	SISMICA	GLOBAL	Y	23.38
924	SOVRAC	GLOBAL	Y	8.52
924	SISMICA	GLOBAL	Y	23.38
925	SOVRAC	GLOBAL	Y	8.52
925	SISMICA	GLOBAL	Y	23.38
926	SOVRAC	GLOBAL	Y	8.52
926	SISMICA	GLOBAL	Y	23.38
927	SOVRAC	GLOBAL	Y	8.52
927	SISMICA	GLOBAL	Y	23.38
928	SOVRAC	GLOBAL	Y	8.52
928	SISMICA	GLOBAL	Y	23.38
929	SOVRAC	GLOBAL	Y	8.52
929	SISMICA	GLOBAL	Y	23.38
930	SOVRAC	GLOBAL	Y	8.52
930	SISMICA	GLOBAL	Y	23.38
931	SOVRAC	GLOBAL	Y	8.52
931	SISMICA	GLOBAL	Y	23.38
932	SOVRAC	GLOBAL	Y	8.52

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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932	SISMICA	GLOBAL	Y	23.38
933	SOVRAC	GLOBAL	Y	8.52
933	SISMICA	GLOBAL	Y	23.38
934	SOVRAC	GLOBAL	Y	8.52
934	SISMICA	GLOBAL	Y	23.38
935	SOVRAC	GLOBAL	Y	8.52
935	SISMICA	GLOBAL	Y	23.38
936	SOVRAC	GLOBAL	Y	8.52
936	SISMICA	GLOBAL	Y	23.38
937	SOVRAC	GLOBAL	Y	8.52
937	SISMICA	GLOBAL	Y	23.38
938	SOVRAC	GLOBAL	Y	8.52
938	SISMICA	GLOBAL	Y	23.38
939	SOVRAC	GLOBAL	Y	8.52
939	SISMICA	GLOBAL	Y	23.38
940	SOVRAC	GLOBAL	Y	8.52
940	SISMICA	GLOBAL	Y	23.38
941	SOVRAC	GLOBAL	Y	8.52
941	SISMICA	GLOBAL	Y	23.38
942	SOVRAC	GLOBAL	Y	8.52
942	SISMICA	GLOBAL	Y	23.38
943	SOVRAC	GLOBAL	Y	8.52
943	SISMICA	GLOBAL	Y	23.38
944	SOVRAC	GLOBAL	Y	8.52
944	SISMICA	GLOBAL	Y	23.38
954	SOVRAC	GLOBAL	Y	8.52
954	SISMICA	GLOBAL	Y	23.38
955	SOVRAC	GLOBAL	Y	8.52
955	SISMICA	GLOBAL	Y	23.38
956	SOVRAC	GLOBAL	Y	8.52
956	SISMICA	GLOBAL	Y	23.38
957	SOVRAC	GLOBAL	Y	8.52
957	SISMICA	GLOBAL	Y	23.38
958	SOVRAC	GLOBAL	Y	8.52
958	SISMICA	GLOBAL	Y	23.38
959	SOVRAC	GLOBAL	Y	8.52
959	SISMICA	GLOBAL	Y	23.38
960	SOVRAC	GLOBAL	Y	8.52
960	SISMICA	GLOBAL	Y	23.38
961	SOVRAC	GLOBAL	Y	8.52
961	SISMICA	GLOBAL	Y	23.38
962	SOVRAC	GLOBAL	Y	8.52
962	SISMICA	GLOBAL	Y	23.38
963	SOVRAC	GLOBAL	Y	8.52
963	SISMICA	GLOBAL	Y	23.38
964	SOVRAC	GLOBAL	Y	8.52
964	SISMICA	GLOBAL	Y	23.38
965	SOVRAC	GLOBAL	Y	8.52
965	SISMICA	GLOBAL	Y	23.38
966	SOVRAC	GLOBAL	Y	8.52
966	SISMICA	GLOBAL	Y	23.38
967	SOVRAC	GLOBAL	Y	8.52
967	SISMICA	GLOBAL	Y	23.38
968	SOVRAC	GLOBAL	Y	8.52
968	SISMICA	GLOBAL	Y	23.38
969	SOVRAC	GLOBAL	Y	8.52
969	SISMICA	GLOBAL	Y	23.38
970	SOVRAC	GLOBAL	Y	8.52
970	SISMICA	GLOBAL	Y	23.38
971	SOVRAC	GLOBAL	Y	8.52
971	SISMICA	GLOBAL	Y	23.38
972	SOVRAC	GLOBAL	Y	8.52
972	SISMICA	GLOBAL	Y	23.38
973	SOVRAC	GLOBAL	Y	8.52
973	SISMICA	GLOBAL	Y	23.38
974	SOVRAC	GLOBAL	Y	8.52
974	SISMICA	GLOBAL	Y	23.38
975	SOVRAC	GLOBAL	Y	8.52
975	SISMICA	GLOBAL	Y	23.38
976	SOVRAC	GLOBAL	Y	8.52
976	SISMICA	GLOBAL	Y	23.38
977	SOVRAC	GLOBAL	Y	8.52
977	SISMICA	GLOBAL	Y	23.38
978	SOVRAC	GLOBAL	Y	8.52
978	SISMICA	GLOBAL	Y	23.38
988	SOVRAC	GLOBAL	Y	8.52
988	SISMICA	GLOBAL	Y	23.38
989	SOVRAC	GLOBAL	Y	8.52

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 68 di 416
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989	SISMICA	GLOBAL	Y	23.38
990	SOVRAC	GLOBAL	Y	8.52
990	SISMICA	GLOBAL	Y	23.38
991	SOVRAC	GLOBAL	Y	8.52
991	SISMICA	GLOBAL	Y	23.38
992	SOVRAC	GLOBAL	Y	8.52
992	SISMICA	GLOBAL	Y	23.38
993	SOVRAC	GLOBAL	Y	8.52
993	SISMICA	GLOBAL	Y	23.38
994	SOVRAC	GLOBAL	Y	8.52
994	SISMICA	GLOBAL	Y	23.38
995	SOVRAC	GLOBAL	Y	8.52
995	SISMICA	GLOBAL	Y	23.38
996	SOVRAC	GLOBAL	Y	8.52
996	SISMICA	GLOBAL	Y	23.38
997	SOVRAC	GLOBAL	Y	8.52
997	SISMICA	GLOBAL	Y	23.38
998	SOVRAC	GLOBAL	Y	8.52
998	SISMICA	GLOBAL	Y	23.38
999	SOVRAC	GLOBAL	Y	8.52
999	SISMICA	GLOBAL	Y	23.38
1000	SOVRAC	GLOBAL	Y	8.52
1000	SISMICA	GLOBAL	Y	23.38
1001	SOVRAC	GLOBAL	Y	8.52
1001	SISMICA	GLOBAL	Y	23.38
1002	SOVRAC	GLOBAL	Y	8.52
1002	SISMICA	GLOBAL	Y	23.38
1003	SOVRAC	GLOBAL	Y	8.52
1003	SISMICA	GLOBAL	Y	23.38
1004	SOVRAC	GLOBAL	Y	8.52
1004	SISMICA	GLOBAL	Y	23.38
1005	SOVRAC	GLOBAL	Y	8.52
1005	SISMICA	GLOBAL	Y	23.38
1006	SOVRAC	GLOBAL	Y	8.52
1006	SISMICA	GLOBAL	Y	23.38
1007	SOVRAC	GLOBAL	Y	8.52
1007	SISMICA	GLOBAL	Y	23.38
1008	SOVRAC	GLOBAL	Y	8.52
1008	SISMICA	GLOBAL	Y	23.38
1009	SOVRAC	GLOBAL	Y	8.52
1009	SISMICA	GLOBAL	Y	23.38
1010	SOVRAC	GLOBAL	Y	8.52
1010	SISMICA	GLOBAL	Y	23.38
1011	SOVRAC	GLOBAL	Y	8.52
1011	SISMICA	GLOBAL	Y	23.38
1012	SOVRAC	GLOBAL	Y	8.52
1012	SISMICA	GLOBAL	Y	23.38
1022	SOVRAC	GLOBAL	Y	8.52
1022	SISMICA	GLOBAL	Y	23.38
1023	SOVRAC	GLOBAL	Y	8.52
1023	SISMICA	GLOBAL	Y	23.38
1024	SOVRAC	GLOBAL	Y	8.52
1024	SISMICA	GLOBAL	Y	23.38
1025	SOVRAC	GLOBAL	Y	8.52
1025	SISMICA	GLOBAL	Y	23.38
1026	SOVRAC	GLOBAL	Y	8.52
1026	SISMICA	GLOBAL	Y	23.38
1027	SOVRAC	GLOBAL	Y	8.52
1027	SISMICA	GLOBAL	Y	23.38
1028	SOVRAC	GLOBAL	Y	8.52
1028	SISMICA	GLOBAL	Y	23.38
1029	SOVRAC	GLOBAL	Y	8.52
1029	SISMICA	GLOBAL	Y	23.38
1030	SOVRAC	GLOBAL	Y	8.52
1030	SISMICA	GLOBAL	Y	23.38
1031	SOVRAC	GLOBAL	Y	8.52
1031	SISMICA	GLOBAL	Y	23.38
1032	SOVRAC	GLOBAL	Y	8.52
1032	SISMICA	GLOBAL	Y	23.38
1033	SOVRAC	GLOBAL	Y	8.52
1033	SISMICA	GLOBAL	Y	23.38
1034	SOVRAC	GLOBAL	Y	8.52
1034	SISMICA	GLOBAL	Y	23.38
1035	SOVRAC	GLOBAL	Y	8.52
1035	SISMICA	GLOBAL	Y	23.38
1036	SOVRAC	GLOBAL	Y	8.52
1036	SISMICA	GLOBAL	Y	23.38
1037	SOVRAC	GLOBAL	Y	8.52



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N. progr. 02	REV. A	Pag. di Pag. 69 di 416
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1037	SISMICA	GLOBAL	Y	23.38
1038	SOVRAC	GLOBAL	Y	8.52
1038	SISMICA	GLOBAL	Y	23.38
1039	SOVRAC	GLOBAL	Y	8.52
1039	SISMICA	GLOBAL	Y	23.38
1040	SOVRAC	GLOBAL	Y	8.52
1040	SISMICA	GLOBAL	Y	23.38
1041	SOVRAC	GLOBAL	Y	8.52
1041	SISMICA	GLOBAL	Y	23.38
1042	SOVRAC	GLOBAL	Y	8.52
1042	SISMICA	GLOBAL	Y	23.38
1043	SOVRAC	GLOBAL	Y	8.52
1043	SISMICA	GLOBAL	Y	23.38
1044	SOVRAC	GLOBAL	Y	8.52
1044	SISMICA	GLOBAL	Y	23.38
1045	SOVRAC	GLOBAL	Y	8.52
1045	SISMICA	GLOBAL	Y	23.38
1046	SOVRAC	GLOBAL	Y	8.52
1046	SISMICA	GLOBAL	Y	23.38
1056	SOVRAC	GLOBAL	Y	8.52
1056	SISMICA	GLOBAL	Y	23.38
1057	SOVRAC	GLOBAL	Y	8.52
1057	SISMICA	GLOBAL	Y	23.38
1058	SOVRAC	GLOBAL	Y	8.52
1058	SISMICA	GLOBAL	Y	23.38
1059	SOVRAC	GLOBAL	Y	8.52
1059	SISMICA	GLOBAL	Y	23.38
1060	SOVRAC	GLOBAL	Y	8.52
1060	SISMICA	GLOBAL	Y	23.38
1061	SOVRAC	GLOBAL	Y	8.52
1061	SISMICA	GLOBAL	Y	23.38
1062	SOVRAC	GLOBAL	Y	8.52
1062	SISMICA	GLOBAL	Y	23.38
1063	SOVRAC	GLOBAL	Y	8.52
1063	SISMICA	GLOBAL	Y	23.38
1064	SOVRAC	GLOBAL	Y	8.52
1064	SISMICA	GLOBAL	Y	23.38
1065	SOVRAC	GLOBAL	Y	8.52
1065	SISMICA	GLOBAL	Y	23.38
1066	SOVRAC	GLOBAL	Y	8.52
1066	SISMICA	GLOBAL	Y	23.38
1067	SOVRAC	GLOBAL	Y	8.52
1067	SISMICA	GLOBAL	Y	23.38
1068	SOVRAC	GLOBAL	Y	8.52
1068	SISMICA	GLOBAL	Y	23.38
1069	SOVRAC	GLOBAL	Y	8.52
1069	SISMICA	GLOBAL	Y	23.38
1070	SOVRAC	GLOBAL	Y	8.52
1070	SISMICA	GLOBAL	Y	23.38
1071	SOVRAC	GLOBAL	Y	8.52
1071	SISMICA	GLOBAL	Y	23.38
1072	SOVRAC	GLOBAL	Y	8.52
1072	SISMICA	GLOBAL	Y	23.38
1073	SOVRAC	GLOBAL	Y	8.52
1073	SISMICA	GLOBAL	Y	23.38
1074	SOVRAC	GLOBAL	Y	8.52
1074	SISMICA	GLOBAL	Y	23.38
1075	SOVRAC	GLOBAL	Y	8.52
1075	SISMICA	GLOBAL	Y	23.38
1076	SOVRAC	GLOBAL	Y	8.52
1076	SISMICA	GLOBAL	Y	23.38
1077	SOVRAC	GLOBAL	Y	8.52
1077	SISMICA	GLOBAL	Y	23.38
1078	SOVRAC	GLOBAL	Y	8.52
1078	SISMICA	GLOBAL	Y	23.38
1079	SOVRAC	GLOBAL	Y	8.52
1079	SISMICA	GLOBAL	Y	23.38
1080	SOVRAC	GLOBAL	Y	8.52
1080	SISMICA	GLOBAL	Y	23.38
302	SOVRAC	GLOBAL	Y	8.52
302	SISMICA	GLOBAL	Y	23.38
303	SOVRAC	GLOBAL	Y	8.52
303	SISMICA	GLOBAL	Y	23.38
304	SOVRAC	GLOBAL	Y	8.52
304	SISMICA	GLOBAL	Y	23.38
305	SOVRAC	GLOBAL	Y	8.52
305	SISMICA	GLOBAL	Y	23.38
306	SOVRAC	GLOBAL	Y	8.52



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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306	SISMICA	GLOBAL	Y	23.38
307	SOVRAC	GLOBAL	Y	8.52
307	SISMICA	GLOBAL	Y	23.38
308	SOVRAC	GLOBAL	Y	8.52
308	SISMICA	GLOBAL	Y	23.38
310	SOVRAC	GLOBAL	Y	8.52
310	SISMICA	GLOBAL	Y	23.38
311	SOVRAC	GLOBAL	Y	8.52
311	SISMICA	GLOBAL	Y	23.38
312	SOVRAC	GLOBAL	Y	8.52
312	SISMICA	GLOBAL	Y	23.38
313	SOVRAC	GLOBAL	Y	8.52
313	SISMICA	GLOBAL	Y	23.38
314	SOVRAC	GLOBAL	Y	8.52
314	SISMICA	GLOBAL	Y	23.38
315	SOVRAC	GLOBAL	Y	8.52
315	SISMICA	GLOBAL	Y	23.38
316	SOVRAC	GLOBAL	Y	8.52
316	SISMICA	GLOBAL	Y	23.38
318	SOVRAC	GLOBAL	Y	8.52
318	SISMICA	GLOBAL	Y	23.38
319	SOVRAC	GLOBAL	Y	8.52
319	SISMICA	GLOBAL	Y	23.38
320	SOVRAC	GLOBAL	Y	8.52
320	SISMICA	GLOBAL	Y	23.38
321	SOVRAC	GLOBAL	Y	8.52
321	SISMICA	GLOBAL	Y	23.38
322	SOVRAC	GLOBAL	Y	8.52
322	SISMICA	GLOBAL	Y	23.38
323	SOVRAC	GLOBAL	Y	8.52
323	SISMICA	GLOBAL	Y	23.38
324	SOVRAC	GLOBAL	Y	8.52
324	SISMICA	GLOBAL	Y	23.38
326	SOVRAC	GLOBAL	Y	8.52
326	SISMICA	GLOBAL	Y	23.38
327	SOVRAC	GLOBAL	Y	8.52
327	SISMICA	GLOBAL	Y	23.38
328	SOVRAC	GLOBAL	Y	8.52
328	SISMICA	GLOBAL	Y	23.38
329	SOVRAC	GLOBAL	Y	8.52
329	SISMICA	GLOBAL	Y	23.38
330	SOVRAC	GLOBAL	Y	8.52
330	SISMICA	GLOBAL	Y	23.38
331	SOVRAC	GLOBAL	Y	8.52
331	SISMICA	GLOBAL	Y	23.38
332	SOVRAC	GLOBAL	Y	8.52
332	SISMICA	GLOBAL	Y	23.38
334	SOVRAC	GLOBAL	Y	8.52
334	SISMICA	GLOBAL	Y	23.38
335	SOVRAC	GLOBAL	Y	8.52
335	SISMICA	GLOBAL	Y	23.38
336	SOVRAC	GLOBAL	Y	8.52
336	SISMICA	GLOBAL	Y	23.38
337	SOVRAC	GLOBAL	Y	8.52
337	SISMICA	GLOBAL	Y	23.38
338	SOVRAC	GLOBAL	Y	8.52
338	SISMICA	GLOBAL	Y	23.38
339	SOVRAC	GLOBAL	Y	8.52
339	SISMICA	GLOBAL	Y	23.38
340	SOVRAC	GLOBAL	Y	8.52
340	SISMICA	GLOBAL	Y	23.38
342	SOVRAC	GLOBAL	Y	8.52
342	SISMICA	GLOBAL	Y	23.38
343	SOVRAC	GLOBAL	Y	8.52
343	SISMICA	GLOBAL	Y	23.38
344	SOVRAC	GLOBAL	Y	8.52
344	SISMICA	GLOBAL	Y	23.38
345	SOVRAC	GLOBAL	Y	8.52
345	SISMICA	GLOBAL	Y	23.38
346	SOVRAC	GLOBAL	Y	8.52
346	SISMICA	GLOBAL	Y	23.38
347	SOVRAC	GLOBAL	Y	8.52
347	SISMICA	GLOBAL	Y	23.38
348	SOVRAC	GLOBAL	Y	8.52
348	SISMICA	GLOBAL	Y	23.38
350	SOVRAC	GLOBAL	Y	8.52
350	SISMICA	GLOBAL	Y	23.38
351	SOVRAC	GLOBAL	Y	8.52



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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351	SISMICA	GLOBAL	Y	23.38
352	SOVRAC	GLOBAL	Y	8.52
352	SISMICA	GLOBAL	Y	23.38
353	SOVRAC	GLOBAL	Y	8.52
353	SISMICA	GLOBAL	Y	23.38
354	SOVRAC	GLOBAL	Y	8.52
354	SISMICA	GLOBAL	Y	23.38
355	SOVRAC	GLOBAL	Y	8.52
355	SISMICA	GLOBAL	Y	23.38
356	SOVRAC	GLOBAL	Y	8.52
356	SISMICA	GLOBAL	Y	23.38
358	SOVRAC	GLOBAL	Y	8.52
358	SISMICA	GLOBAL	Y	23.38
359	SOVRAC	GLOBAL	Y	8.52
359	SISMICA	GLOBAL	Y	23.38
360	SOVRAC	GLOBAL	Y	8.52
360	SISMICA	GLOBAL	Y	23.38
361	SOVRAC	GLOBAL	Y	8.52
361	SISMICA	GLOBAL	Y	23.38
362	SOVRAC	GLOBAL	Y	8.52
362	SISMICA	GLOBAL	Y	23.38
363	SOVRAC	GLOBAL	Y	8.52
363	SISMICA	GLOBAL	Y	23.38
364	SOVRAC	GLOBAL	Y	8.52
364	SISMICA	GLOBAL	Y	23.38
366	SOVRAC	GLOBAL	Y	8.52
366	SISMICA	GLOBAL	Y	23.38
367	SOVRAC	GLOBAL	Y	8.52
367	SISMICA	GLOBAL	Y	23.38
368	SOVRAC	GLOBAL	Y	8.52
368	SISMICA	GLOBAL	Y	23.38
369	SOVRAC	GLOBAL	Y	8.52
369	SISMICA	GLOBAL	Y	23.38
370	SOVRAC	GLOBAL	Y	8.52
370	SISMICA	GLOBAL	Y	23.38
371	SOVRAC	GLOBAL	Y	8.52
371	SISMICA	GLOBAL	Y	23.38
372	SOVRAC	GLOBAL	Y	8.52
372	SISMICA	GLOBAL	Y	23.38
374	SOVRAC	GLOBAL	Y	8.52
374	SISMICA	GLOBAL	Y	23.38
375	SOVRAC	GLOBAL	Y	8.52
375	SISMICA	GLOBAL	Y	23.38
376	SOVRAC	GLOBAL	Y	8.52
376	SISMICA	GLOBAL	Y	23.38
377	SOVRAC	GLOBAL	Y	8.52
377	SISMICA	GLOBAL	Y	23.38
378	SOVRAC	GLOBAL	Y	8.52
378	SISMICA	GLOBAL	Y	23.38
379	SOVRAC	GLOBAL	Y	8.52
379	SISMICA	GLOBAL	Y	23.38
380	SOVRAC	GLOBAL	Y	8.52
380	SISMICA	GLOBAL	Y	23.38
382	SOVRAC	GLOBAL	Y	8.52
382	SISMICA	GLOBAL	Y	23.38
383	SOVRAC	GLOBAL	Y	8.52
383	SISMICA	GLOBAL	Y	23.38
384	SOVRAC	GLOBAL	Y	8.52
384	SISMICA	GLOBAL	Y	23.38
385	SOVRAC	GLOBAL	Y	8.52
385	SISMICA	GLOBAL	Y	23.38
386	SOVRAC	GLOBAL	Y	8.52
386	SISMICA	GLOBAL	Y	23.38
387	SOVRAC	GLOBAL	Y	8.52
387	SISMICA	GLOBAL	Y	23.38
388	SOVRAC	GLOBAL	Y	8.52
388	SISMICA	GLOBAL	Y	23.38
390	SOVRAC	GLOBAL	Y	8.52
390	SISMICA	GLOBAL	Y	23.38
391	SOVRAC	GLOBAL	Y	8.52
391	SISMICA	GLOBAL	Y	23.38
392	SOVRAC	GLOBAL	Y	8.52
392	SISMICA	GLOBAL	Y	23.38
393	SOVRAC	GLOBAL	Y	8.52
393	SISMICA	GLOBAL	Y	23.38
394	SOVRAC	GLOBAL	Y	8.52
394	SISMICA	GLOBAL	Y	23.38
395	SOVRAC	GLOBAL	Y	8.52

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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395	SISMICA	GLOBAL	Y	23.38
396	SOVRAC	GLOBAL	Y	8.52
396	SISMICA	GLOBAL	Y	23.38
398	SOVRAC	GLOBAL	Y	8.52
398	SISMICA	GLOBAL	Y	23.38
399	SOVRAC	GLOBAL	Y	8.52
399	SISMICA	GLOBAL	Y	23.38
400	SOVRAC	GLOBAL	Y	8.52
400	SISMICA	GLOBAL	Y	23.38
401	SOVRAC	GLOBAL	Y	8.52
401	SISMICA	GLOBAL	Y	23.38
402	SOVRAC	GLOBAL	Y	8.52
402	SISMICA	GLOBAL	Y	23.38
403	SOVRAC	GLOBAL	Y	8.52
403	SISMICA	GLOBAL	Y	23.38
404	SOVRAC	GLOBAL	Y	8.52
404	SISMICA	GLOBAL	Y	23.38
406	SOVRAC	GLOBAL	Y	8.52
406	SISMICA	GLOBAL	Y	23.38
407	SOVRAC	GLOBAL	Y	8.52
407	SISMICA	GLOBAL	Y	23.38
408	SOVRAC	GLOBAL	Y	8.52
408	SISMICA	GLOBAL	Y	23.38
409	SOVRAC	GLOBAL	Y	8.52
409	SISMICA	GLOBAL	Y	23.38
410	SOVRAC	GLOBAL	Y	8.52
410	SISMICA	GLOBAL	Y	23.38
411	SOVRAC	GLOBAL	Y	8.52
411	SISMICA	GLOBAL	Y	23.38
412	SOVRAC	GLOBAL	Y	8.52
412	SISMICA	GLOBAL	Y	23.38
414	SOVRAC	GLOBAL	Y	8.52
414	SISMICA	GLOBAL	Y	23.38
415	SOVRAC	GLOBAL	Y	8.52
415	SISMICA	GLOBAL	Y	23.38
416	SOVRAC	GLOBAL	Y	8.52
416	SISMICA	GLOBAL	Y	23.38
417	SOVRAC	GLOBAL	Y	8.52
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418	SOVRAC	GLOBAL	Y	8.52
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419	SOVRAC	GLOBAL	Y	8.52
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420	SOVRAC	GLOBAL	Y	8.52
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422	SOVRAC	GLOBAL	Y	8.52
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423	SOVRAC	GLOBAL	Y	8.52
423	SISMICA	GLOBAL	Y	23.38
424	SOVRAC	GLOBAL	Y	8.52
424	SISMICA	GLOBAL	Y	23.38
425	SOVRAC	GLOBAL	Y	8.52
425	SISMICA	GLOBAL	Y	23.38
426	SOVRAC	GLOBAL	Y	8.52
426	SISMICA	GLOBAL	Y	23.38
427	SOVRAC	GLOBAL	Y	8.52
427	SISMICA	GLOBAL	Y	23.38
428	SOVRAC	GLOBAL	Y	8.52
428	SISMICA	GLOBAL	Y	23.38
430	SOVRAC	GLOBAL	Y	8.52
430	SISMICA	GLOBAL	Y	23.38
431	SOVRAC	GLOBAL	Y	8.52
431	SISMICA	GLOBAL	Y	23.38
432	SOVRAC	GLOBAL	Y	8.52
432	SISMICA	GLOBAL	Y	23.38
433	SOVRAC	GLOBAL	Y	8.52
433	SISMICA	GLOBAL	Y	23.38
434	SOVRAC	GLOBAL	Y	8.52
434	SISMICA	GLOBAL	Y	23.38
435	SOVRAC	GLOBAL	Y	8.52
435	SISMICA	GLOBAL	Y	23.38
436	SOVRAC	GLOBAL	Y	8.52
436	SISMICA	GLOBAL	Y	23.38
438	SOVRAC	GLOBAL	Y	8.52
438	SISMICA	GLOBAL	Y	23.38
439	SOVRAC	GLOBAL	Y	8.52
439	SISMICA	GLOBAL	Y	23.38
440	SOVRAC	GLOBAL	Y	8.52

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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440	SISMICA	GLOBAL	Y	23.38
441	SOVRAC	GLOBAL	Y	8.52
441	SISMICA	GLOBAL	Y	23.38
442	SOVRAC	GLOBAL	Y	8.52
442	SISMICA	GLOBAL	Y	23.38
443	SOVRAC	GLOBAL	Y	8.52
443	SISMICA	GLOBAL	Y	23.38
444	SOVRAC	GLOBAL	Y	8.52
444	SISMICA	GLOBAL	Y	23.38
446	SOVRAC	GLOBAL	Y	8.52
446	SISMICA	GLOBAL	Y	23.38
447	SOVRAC	GLOBAL	Y	8.52
447	SISMICA	GLOBAL	Y	23.38
448	SOVRAC	GLOBAL	Y	8.52
448	SISMICA	GLOBAL	Y	23.38
449	SOVRAC	GLOBAL	Y	8.52
449	SISMICA	GLOBAL	Y	23.38
450	SOVRAC	GLOBAL	Y	8.52
450	SISMICA	GLOBAL	Y	23.38
451	SOVRAC	GLOBAL	Y	8.52
451	SISMICA	GLOBAL	Y	23.38
452	SOVRAC	GLOBAL	Y	8.52
452	SISMICA	GLOBAL	Y	23.38
454	SOVRAC	GLOBAL	Y	8.52
454	SISMICA	GLOBAL	Y	23.38
455	SOVRAC	GLOBAL	Y	8.52
455	SISMICA	GLOBAL	Y	23.38
456	SOVRAC	GLOBAL	Y	8.52
456	SISMICA	GLOBAL	Y	23.38
457	SOVRAC	GLOBAL	Y	8.52
457	SISMICA	GLOBAL	Y	23.38
458	SOVRAC	GLOBAL	Y	8.52
458	SISMICA	GLOBAL	Y	23.38
459	SOVRAC	GLOBAL	Y	8.52
459	SISMICA	GLOBAL	Y	23.38
460	SOVRAC	GLOBAL	Y	8.52
460	SISMICA	GLOBAL	Y	23.38
462	SOVRAC	GLOBAL	Y	8.52
462	SISMICA	GLOBAL	Y	23.38
463	SOVRAC	GLOBAL	Y	8.52
463	SISMICA	GLOBAL	Y	23.38
464	SOVRAC	GLOBAL	Y	8.52
464	SISMICA	GLOBAL	Y	23.38
465	SOVRAC	GLOBAL	Y	8.52
465	SISMICA	GLOBAL	Y	23.38
466	SOVRAC	GLOBAL	Y	8.52
466	SISMICA	GLOBAL	Y	23.38
467	SOVRAC	GLOBAL	Y	8.52
467	SISMICA	GLOBAL	Y	23.38
468	SOVRAC	GLOBAL	Y	8.52
468	SISMICA	GLOBAL	Y	23.38
470	SOVRAC	GLOBAL	Y	8.52
470	SISMICA	GLOBAL	Y	23.38
471	SOVRAC	GLOBAL	Y	8.52
471	SISMICA	GLOBAL	Y	23.38
472	SOVRAC	GLOBAL	Y	8.52
472	SISMICA	GLOBAL	Y	23.38
473	SOVRAC	GLOBAL	Y	8.52
473	SISMICA	GLOBAL	Y	23.38
474	SOVRAC	GLOBAL	Y	8.52
474	SISMICA	GLOBAL	Y	23.38
475	SOVRAC	GLOBAL	Y	8.52
475	SISMICA	GLOBAL	Y	23.38
476	SOVRAC	GLOBAL	Y	8.52
476	SISMICA	GLOBAL	Y	23.38
478	SOVRAC	GLOBAL	Y	8.52
478	SISMICA	GLOBAL	Y	23.38
479	SOVRAC	GLOBAL	Y	8.52
479	SISMICA	GLOBAL	Y	23.38
480	SOVRAC	GLOBAL	Y	8.52
480	SISMICA	GLOBAL	Y	23.38
481	SOVRAC	GLOBAL	Y	8.52
481	SISMICA	GLOBAL	Y	23.38
482	SOVRAC	GLOBAL	Y	8.52
482	SISMICA	GLOBAL	Y	23.38
483	SOVRAC	GLOBAL	Y	8.52
483	SISMICA	GLOBAL	Y	23.38
484	SOVRAC	GLOBAL	Y	8.52

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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484	SISMICA	GLOBAL	Y	23.38
486	SOVRAC	GLOBAL	Y	8.52
486	SISMICA	GLOBAL	Y	23.38
487	SOVRAC	GLOBAL	Y	8.52
487	SISMICA	GLOBAL	Y	23.38
488	SOVRAC	GLOBAL	Y	8.52
488	SISMICA	GLOBAL	Y	23.38
489	SOVRAC	GLOBAL	Y	8.52
489	SISMICA	GLOBAL	Y	23.38
490	SOVRAC	GLOBAL	Y	8.52
490	SISMICA	GLOBAL	Y	23.38
491	SOVRAC	GLOBAL	Y	8.52
491	SISMICA	GLOBAL	Y	23.38
492	SOVRAC	GLOBAL	Y	8.52
492	SISMICA	GLOBAL	Y	23.38
494	SOVRAC	GLOBAL	Y	8.52
494	SISMICA	GLOBAL	Y	23.38
495	SOVRAC	GLOBAL	Y	8.52
495	SISMICA	GLOBAL	Y	23.38
496	SOVRAC	GLOBAL	Y	8.52
496	SISMICA	GLOBAL	Y	23.38
497	SOVRAC	GLOBAL	Y	8.52
497	SISMICA	GLOBAL	Y	23.38
498	SOVRAC	GLOBAL	Y	8.52
498	SISMICA	GLOBAL	Y	23.38
499	SOVRAC	GLOBAL	Y	8.52
499	SISMICA	GLOBAL	Y	23.38
500	SOVRAC	GLOBAL	Y	8.52
500	SISMICA	GLOBAL	Y	23.38
502	SOVRAC	GLOBAL	Y	8.52
502	SISMICA	GLOBAL	Y	23.38
503	SOVRAC	GLOBAL	Y	8.52
503	SISMICA	GLOBAL	Y	23.38
504	SOVRAC	GLOBAL	Y	8.52
504	SISMICA	GLOBAL	Y	23.38
505	SOVRAC	GLOBAL	Y	8.52
505	SISMICA	GLOBAL	Y	23.38
506	SOVRAC	GLOBAL	Y	8.52
506	SISMICA	GLOBAL	Y	23.38
507	SOVRAC	GLOBAL	Y	8.52
507	SISMICA	GLOBAL	Y	23.38
508	SOVRAC	GLOBAL	Y	8.52
508	SISMICA	GLOBAL	Y	23.38
509	SOVRAC	GLOBAL	Y	8.52
509	SISMICA	GLOBAL	Y	23.38
510	SOVRAC	GLOBAL	Y	8.52
510	SISMICA	GLOBAL	Y	23.38
511	SOVRAC	GLOBAL	Y	8.52
511	SISMICA	GLOBAL	Y	23.38
537	SOVRAC	GLOBAL	Y	8.52
537	SISMICA	GLOBAL	Y	23.38
538	SOVRAC	GLOBAL	Y	8.52
538	SISMICA	GLOBAL	Y	23.38
539	SOVRAC	GLOBAL	Y	8.52
539	SISMICA	GLOBAL	Y	23.38
540	SOVRAC	GLOBAL	Y	8.52
540	SISMICA	GLOBAL	Y	23.38
541	SOVRAC	GLOBAL	Y	8.52
541	SISMICA	GLOBAL	Y	23.38
542	SOVRAC	GLOBAL	Y	8.52
542	SISMICA	GLOBAL	Y	23.38
543	SOVRAC	GLOBAL	Y	8.52
543	SISMICA	GLOBAL	Y	23.38
544	SOVRAC	GLOBAL	Y	8.52
544	SISMICA	GLOBAL	Y	23.38
545	SOVRAC	GLOBAL	Y	8.52
545	SISMICA	GLOBAL	Y	23.38
571	SOVRAC	GLOBAL	Y	8.52
571	SISMICA	GLOBAL	Y	23.38
572	SOVRAC	GLOBAL	Y	8.52
572	SISMICA	GLOBAL	Y	23.38
573	SOVRAC	GLOBAL	Y	8.52
573	SISMICA	GLOBAL	Y	23.38
574	SOVRAC	GLOBAL	Y	8.52
574	SISMICA	GLOBAL	Y	23.38
575	SOVRAC	GLOBAL	Y	8.52
575	SISMICA	GLOBAL	Y	23.38
576	SOVRAC	GLOBAL	Y	8.52



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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576	SISMICA	GLOBAL	Y	23.38
577	SOVRAC	GLOBAL	Y	8.52
577	SISMICA	GLOBAL	Y	23.38
578	SOVRAC	GLOBAL	Y	8.52
578	SISMICA	GLOBAL	Y	23.38
579	SOVRAC	GLOBAL	Y	8.52
579	SISMICA	GLOBAL	Y	23.38
605	SOVRAC	GLOBAL	Y	8.52
605	SISMICA	GLOBAL	Y	23.38
606	SOVRAC	GLOBAL	Y	8.52
606	SISMICA	GLOBAL	Y	23.38
607	SOVRAC	GLOBAL	Y	8.52
607	SISMICA	GLOBAL	Y	23.38
608	SOVRAC	GLOBAL	Y	8.52
608	SISMICA	GLOBAL	Y	23.38
609	SOVRAC	GLOBAL	Y	8.52
609	SISMICA	GLOBAL	Y	23.38
610	SOVRAC	GLOBAL	Y	8.52
610	SISMICA	GLOBAL	Y	23.38
611	SOVRAC	GLOBAL	Y	8.52
611	SISMICA	GLOBAL	Y	23.38
612	SOVRAC	GLOBAL	Y	8.52
612	SISMICA	GLOBAL	Y	23.38
613	SOVRAC	GLOBAL	Y	8.52
613	SISMICA	GLOBAL	Y	23.38
639	SOVRAC	GLOBAL	Y	8.52
639	SISMICA	GLOBAL	Y	23.38
640	SOVRAC	GLOBAL	Y	8.52
640	SISMICA	GLOBAL	Y	23.38
641	SOVRAC	GLOBAL	Y	8.52
641	SISMICA	GLOBAL	Y	23.38
642	SOVRAC	GLOBAL	Y	8.52
642	SISMICA	GLOBAL	Y	23.38
643	SOVRAC	GLOBAL	Y	8.52
643	SISMICA	GLOBAL	Y	23.38
644	SOVRAC	GLOBAL	Y	8.52
644	SISMICA	GLOBAL	Y	23.38
645	SOVRAC	GLOBAL	Y	8.52
645	SISMICA	GLOBAL	Y	23.38
646	SOVRAC	GLOBAL	Y	8.52
646	SISMICA	GLOBAL	Y	23.38
647	SOVRAC	GLOBAL	Y	8.52
647	SISMICA	GLOBAL	Y	23.38
673	SOVRAC	GLOBAL	Y	8.52
673	SISMICA	GLOBAL	Y	23.38
674	SOVRAC	GLOBAL	Y	8.52
674	SISMICA	GLOBAL	Y	23.38
675	SOVRAC	GLOBAL	Y	8.52
675	SISMICA	GLOBAL	Y	23.38
676	SOVRAC	GLOBAL	Y	8.52
676	SISMICA	GLOBAL	Y	23.38

Table: Area Section Assignments

Area	Section	MatProp
302	POZZ	Default
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304	POZZ	Default
305	POZZ	Default
306	POZZ	Default
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308	POZZ	Default
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313	POZZ	Default
314	POZZ	Default
315	POZZ	Default
316	POZZ	Default
318	POZZ	Default
319	POZZ	Default
320	POZZ	Default
321	POZZ	Default
322	POZZ	Default
323	POZZ	Default



QUADRILATERO
Marche Umbria S.p.A.

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto

2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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324	POZZ	Default
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411	POZZ	Default
412	POZZ	Default



QUADRILATERO
Marche Umbria S.p.A.

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto

2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 77 di 416
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414	POZZ	Default
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499	POZZ	Default
500	POZZ	Default
502	POZZ	Default



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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576	POZZ	Default
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580	POZZ	Default

**2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto****2.1 Tratto Fabriano-Matelica Nord**

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 79 di 416
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657	POZZ	Default
658	POZZ	Default



QUADRILATERO
Marche Umbria S.p.A.

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto

2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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659	POZZ	Default
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734	POZZ	Default
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736	POZZ	Default
737	POZZ	Default
738	POZZ	Default
739	POZZ	Default
740	POZZ	Default
750	POZZ	Default
751	POZZ	Default
752	POZZ	Default
753	POZZ	Default
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755	POZZ	Default
756	POZZ	Default
757	POZZ	Default
758	POZZ	Default
759	POZZ	Default



QUADRILATERO
Marche Umbria S.p.A.

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto

2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera	Tratto	Settore	CEE	WBS	Id.doc.	N.progr.	REV.	Pag.di Pag.
L0703	211	E	11	CS19F0	REL	02	A	81 di 416

760	POZZ	Default
761	POZZ	Default
762	POZZ	Default
763	POZZ	Default
764	POZZ	Default
765	POZZ	Default
766	POZZ	Default
767	POZZ	Default
768	POZZ	Default
769	POZZ	Default
770	POZZ	Default
771	POZZ	Default
772	POZZ	Default
773	POZZ	Default
774	POZZ	Default
784	POZZ	Default
785	POZZ	Default
786	POZZ	Default
787	POZZ	Default
788	POZZ	Default
789	POZZ	Default
790	POZZ	Default
791	POZZ	Default
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827	POZZ	Default
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857	POZZ	Default
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860	POZZ	Default
861	POZZ	Default
862	POZZ	Default
863	POZZ	Default
864	POZZ	Default



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 82 di 416
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865	POZZ	Default
866	POZZ	Default
867	POZZ	Default
868	POZZ	Default
869	POZZ	Default
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892	POZZ	Default
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968	POZZ	Default
969	POZZ	Default



QUADRILATERO
Marche Umbria S.p.A.

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto

2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera	Tratto	Settore	CEE	WBS	Id.doc.	N.progr.	REV.	Pag.di Pag.
L0703	211	E	11	CS19F0	REL	02	A	83 di 416

970	POZZ	Default
971	POZZ	Default
972	POZZ	Default
973	POZZ	Default
974	POZZ	Default
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976	POZZ	Default
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1069	POZZ	Default
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1072	POZZ	Default
1073	POZZ	Default
1074	POZZ	Default



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 84 di 416
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1075	POZZ	Default
1076	POZZ	Default
1077	POZZ	Default
1078	POZZ	Default
1079	POZZ	Default
1080	POZZ	Default

Table: Area Section Properties, Part 1 of 4

Section	Material	MatAngle	AreaType	Type	DrillDOF	Thickness	BendThick
Arc		Degrees				m	m
POZZ	CONC	0.000	Shell	Shell-Thick	Yes	0.300000	0.300000

Table: Area Section Properties, Part 2 of 4

Section	InComp	CoordSys	Color	TotalWt	TotalMass	F11Mod	F22Mod
				KN	KN-s2/m		
POZZ			2	76.499	7.65	1.000000	1.000000

Table: Area Section Properties, Part 3 of 4

Section	F12Mod	M11Mod	M22Mod	M12Mod	V13Mod	V23Mod	MMod
WMod							
POZZ	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000

Table: Area Section Properties, Part 4 of 4

Section	GUID	Notes
POZZ		

Table: Area Section Property Design Parameters

Section	RebarMat	RebarOpt
POZZ	None	Default

Table: Case - Static 1 - Load Assignments

Case	LoadType	LoadName	LoadSF
STATICA	Load pattern	STATICA	1.000000
SISMICA	Load pattern	SISMICA	1.000000
LOAD	Load pattern	LOAD	1.000000
SOVRAC	Load pattern	SOVRAC	1.000000

Table: Combination Definitions, Part 1 of 3

ComboName	ComboType	AutoDesign	CaseType	CaseName	ScaleFactor	SteelDesign
SLU1	Linear Add	No	Linear Static	LOAD	1.350000	No
SLU1			Linear Static	STATICA	1.350000	
SLU2	Linear Add	No	Linear Static	LOAD	1.350000	No
SLU2			Linear Static	STATICA	1.350000	
SLU2			Linear Static	SOVRAC	1.500000	
SISM1	Linear Add	No	Linear Static	LOAD	1.000000	No
SISM1			Linear Static	STATICA	1.000000	
SISM1			Linear Static	SISMICA	1.000000	
SLE1	Linear Add	No	Linear Static	LOAD	1.000000	No
SLE1			Linear Static	STATICA	1.000000	



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 85 di 416
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SLE2	Linear Add	No	Linear Static	LOAD	1.000000	No
SLE2			Linear Static	STATICA	1.000000	
SLE2			Linear Static	SOVRAC	1.000000	
INVSLE	Envelope	No	Response Combo	SLE1	1.000000	No
INVSLE			Response Combo	SLE2	1.000000	
INVSLU	Envelope	No	Response Combo	SLU1	1.000000	No
INVSLU			Response Combo	SLU2	1.000000	
INVSLU			Response Combo	SISM1	1.000000	

Table: Combination Definitions, Part 2 of 3

ComboName	CaseName	ConcDesign	AlumDesign	ColdDesign	GUID
SLU1	LOAD	No	No	No	
SLU1	STATICA				
SLU2	LOAD	No	No	No	
SLU2	STATICA				
SLU2	SOVRAC				
SISM1	LOAD	No	No	No	
SISM1	STATICA				
SISM1	SISMICA				
SLE1	LOAD	No	No	No	
SLE1	STATICA				
SLE2	LOAD	No	No	No	
SLE2	STATICA				
SLE2	SOVRAC				
INVSLE	SLE1	No	No	No	
INVSLE	SLE2				
INVSLU	SLU1	No	No	No	
INVSLU	SLU2				
INVSLU	SISM1				

Table: Combination Definitions, Part 3 of 3

ComboName	CaseName	Notes
SLU1	LOAD	
SLU1	STATICA	
SLU2	LOAD	
SLU2	STATICA	
SLU2	SOVRAC	
SISM1	LOAD	
SISM1	STATICA	
SISM1	SISMICA	
SLE1	LOAD	
SLE1	STATICA	
SLE2	LOAD	
SLE2	STATICA	
SLE2	SOVRAC	
INVSLE	SLE1	
INVSLE	SLE2	
INVSLU	SLU1	
INVSLU	SLU2	
INVSLU	SISM1	

Table: Element Forces - Area Shells

Area	AreaElem	ShellType	OutputCase	CaseType	M11	M22	V13
V23					KN-m/m	KN-m/m	KN/m
KN/m							
02	306	430 Shell-Thick	INVSLE	Combination	-4.9176	-1.0451	-9.55 -4.794E-
02	306	430 Shell-Thick	INVSLE	Combination	-11.6438	-2.2799	-21.91 -6.060E-
0.52	306	430 Shell-Thick	INVSLE	Combination	-9.0824	-1.7832	-21.91
0.52	306	430 Shell-Thick	INVSLE	Combination	-8.8441	-1.7992	-21.31
02	306	430 Shell-Thick	INVSLE	Combination	-11.3723	-2.3233	-21.31 -6.060E-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 86 di 416
02	306	430 Shell-Thick	INVS LU	Combination	-7.1315	-1.3431	-13.77	-2.203E-
0.74	306	430 Shell-Thick	INVS LU	Combination	-5.5298	-1.0567	-13.77	
0.74	306	430 Shell-Thick	INVS LU	Combination	-5.1008	-1.0717	-12.89	
02	306	430 Shell-Thick	INVS LU	Combination	-6.6388	-1.4109	-12.89	-2.203E-
02	306	430 Shell-Thick	INVS LU	Combination	-24.6649	-4.9103	-45.89	-8.180E-
0.46	306	430 Shell-Thick	INVS LU	Combination	-19.2889	-3.8313	-45.89	
0.46	306	430 Shell-Thick	INVS LU	Combination	-19.2133	-3.8571	-45.38	
02	306	430 Shell-Thick	INVS LU	Combination	-24.5847	-4.9397	-45.38	-8.180E-
02	307	431 Shell-Thick	INVS LE	Combination	-4.8848	-0.9187	-9.55	-4.341E-
0.48	307	431 Shell-Thick	INVS LE	Combination	-3.7714	-0.7210	-9.55	
0.48	307	431 Shell-Thick	INVS LE	Combination	-3.4531	-0.7293	-8.99	
02	307	431 Shell-Thick	INVS LE	Combination	-4.5231	-0.9629	-8.99	-4.341E-
02	307	431 Shell-Thick	INVS LE	Combination	-11.3410	-2.2240	-21.32	-5.726E-
0.46	307	431 Shell-Thick	INVS LE	Combination	-8.8476	-1.7597	-21.32	
0.46	307	431 Shell-Thick	INVS LE	Combination	-8.6252	-1.7736	-20.78	
02	307	431 Shell-Thick	INVS LE	Combination	-11.0893	-2.2621	-20.78	-5.726E-
02	307	431 Shell-Thick	INVS LU	Combination	-6.5944	-1.2403	-12.90	-1.505E-
0.64	307	431 Shell-Thick	INVS LU	Combination	-5.0913	-0.9734	-12.90	
0.64	307	431 Shell-Thick	INVS LU	Combination	-4.6617	-0.9846	-12.13	
02	307	431 Shell-Thick	INVS LU	Combination	-6.1062	-1.2999	-12.13	-1.505E-
02	307	431 Shell-Thick	INVS LU	Combination	-24.5566	-4.8957	-45.39	-7.730E-
0.42	307	431 Shell-Thick	INVS LU	Combination	-19.2384	-3.8858	-45.39	
0.42	307	431 Shell-Thick	INVS LU	Combination	-19.2123	-3.9112	-44.93	
02	307	431 Shell-Thick	INVS LU	Combination	-24.5298	-4.9215	-44.93	-7.730E-
02	308	432 Shell-Thick	INVS LE	Combination	-4.4915	-0.8406	-8.99	-4.555E-
0.38	308	432 Shell-Thick	INVS LE	Combination	-3.4391	-0.6235	-8.99	
0.38	308	432 Shell-Thick	INVS LE	Combination	-3.0892	-0.6263	-8.53	
02	308	432 Shell-Thick	INVS LE	Combination	-4.1003	-0.8777	-8.53	-4.555E-
02	308	432 Shell-Thick	INVS LE	Combination	-11.0547	-2.1646	-20.79	-5.664E-
0.36	308	432 Shell-Thick	INVS LE	Combination	-8.6140	-1.6422	-20.79	
0.36	308	432 Shell-Thick	INVS LE	Combination	-8.3586	-1.6476	-20.36	
02	308	432 Shell-Thick	INVS LE	Combination	-10.7641	-2.1991	-20.36	-5.664E-
02	308	432 Shell-Thick	INVS LU	Combination	-6.0635	-1.1349	-12.14	-2.286E-
0.51	308	432 Shell-Thick	INVS LU	Combination	-4.6428	-0.8417	-12.14	
0.51	308	432 Shell-Thick	INVS LU	Combination	-4.1704	-0.8455	-11.52	
02	308	432 Shell-Thick	INVS LU	Combination	-5.5354	-1.1849	-11.52	-2.286E-
02	308	432 Shell-Thick	INVS LU	Combination	-24.4891	-4.8747	-44.95	-7.646E-
0.34	308	432 Shell-Thick	INVS LU	Combination	-19.2069	-3.7276	-44.95	
0.34	308	432 Shell-Thick	INVS LU	Combination	-19.1449	-3.7381	-44.57	

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 87 di 416
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02	308	432 Shell-Thick	INVS LU Combination	-24.4044	-4.9040	-44.57	-7.646E-
0.62	310	433 Shell-Thick	INVS LE Combination	-5.2782	-0.9593	-12.09	
1.26	310	433 Shell-Thick	INVS LE Combination	-3.8744	-0.6820	-12.09	
1.26	310	433 Shell-Thick	INVS LE Combination	-3.6918	-0.7831	-11.42	
0.62	310	433 Shell-Thick	INVS LE Combination	-5.0559	-1.0933	-11.42	
0.57	310	433 Shell-Thick	INVS LE Combination	-9.8858	-1.8938	-22.48	
1.11	310	433 Shell-Thick	INVS LE Combination	-7.2628	-1.3556	-22.48	
1.11	310	433 Shell-Thick	INVS LE Combination	-7.1370	-1.4527	-21.91	
0.57	310	433 Shell-Thick	INVS LE Combination	-9.7416	-2.0058	-21.91	
0.84	310	433 Shell-Thick	INVS LU Combination	-7.1256	-1.2950	-16.32	
1.70	310	433 Shell-Thick	INVS LU Combination	-5.2304	-0.9207	-16.32	
1.70	310	433 Shell-Thick	INVS LU Combination	-4.9840	-1.0572	-15.41	
0.84	310	433 Shell-Thick	INVS LU Combination	-6.8255	-1.4759	-15.41	
0.44	310	433 Shell-Thick	INVS LU Combination	-19.3172	-3.8066	-43.76	
0.44	310	433 Shell-Thick	INVS LU Combination	-14.1988	-2.7346	-43.76	
0.80	310	433 Shell-Thick	INVS LU Combination	-14.1889	-2.8233	-43.39	
0.80	310	433 Shell-Thick	INVS LU Combination	-19.3329	-3.8737	-43.39	
0.44	311	434 Shell-Thick	INVS LE Combination	-5.0066	-0.9103	-11.43	
0.62	311	434 Shell-Thick	INVS LE Combination	-3.6793	-0.6571	-11.43	
1.24	311	434 Shell-Thick	INVS LE Combination	-3.4860	-0.7559	-10.76	
1.24	311	434 Shell-Thick	INVS LE Combination	-4.7717	-1.0435	-10.76	
0.62	311	434 Shell-Thick	INVS LE Combination	-9.6941	-1.8653	-21.93	
0.57	311	434 Shell-Thick	INVS LE Combination	-7.1349	-1.3459	-21.93	
1.11	311	434 Shell-Thick	INVS LE Combination	-6.9925	-1.4417	-21.34	
1.11	311	434 Shell-Thick	INVS LE Combination	-9.5286	-1.9800	-21.34	
0.57	311	434 Shell-Thick	INVS LU Combination	-6.7590	-1.2289	-15.43	
0.83	311	434 Shell-Thick	INVS LU Combination	-4.9670	-0.8871	-15.43	
1.67	311	434 Shell-Thick	INVS LU Combination	-4.7061	-1.0205	-14.53	
1.67	311	434 Shell-Thick	INVS LU Combination	-6.4418	-1.4088	-14.53	
0.83	311	434 Shell-Thick	INVS LU Combination	-19.2892	-3.8201	-43.42	
0.47	311	434 Shell-Thick	INVS LU Combination	-14.2085	-2.7558	-43.42	
0.86	311	434 Shell-Thick	INVS LU Combination	-14.1702	-2.8453	-43.00	
0.86	311	434 Shell-Thick	INVS LU Combination	-19.2659	-3.8968	-43.00	
0.47	312	435 Shell-Thick	INVS LE Combination	-4.7236	-0.8564	-10.77	
0.59	312	435 Shell-Thick	INVS LE Combination	-3.4720	-0.6329	-10.77	
1.20	312	435 Shell-Thick	INVS LE Combination	-3.2747	-0.7277	-10.13	
1.20	312	435 Shell-Thick	INVS LE Combination	-4.4848	-0.9855	-10.13	
0.59	312	435 Shell-Thick	INVS LE Combination	-9.4816	-1.8200	-21.36	
0.56	312	435 Shell-Thick	INVS LE Combination	-6.9886	-1.3473	-21.36	
1.09							

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1.09	312	435 Shell-Thick	INVSLE Combination	-6.8424	-1.4408	-20.79		
0.56	312	435 Shell-Thick	INVSLE Combination	-9.3120	-1.9329	-20.79		
0.80	312	435 Shell-Thick	INVSLE Combination	-6.3769	-1.1562	-14.54		
1.61	312	435 Shell-Thick	INVSLE Combination	-4.6872	-0.8544	-14.54		
1.61	312	435 Shell-Thick	INVSLE Combination	-4.4208	-0.9824	-13.68		
0.80	312	435 Shell-Thick	INVSLE Combination	-6.0545	-1.3304	-13.68		
0.48	312	435 Shell-Thick	INVSLE Combination	-19.2211	-3.7925	-43.02		
0.89	312	435 Shell-Thick	INVSLE Combination	-14.1869	-2.8095	-43.02		
0.89	312	435 Shell-Thick	INVSLE Combination	-14.1453	-2.9006	-42.59		
0.48	312	435 Shell-Thick	INVSLE Combination	-19.1929	-3.8721	-42.59		
0.56	313	436 Shell-Thick	INVSLE Combination	-4.4389	-0.8086	-10.14		
1.12	313	436 Shell-Thick	INVSLE Combination	-3.2593	-0.5983	-10.14		
1.12	313	436 Shell-Thick	INVSLE Combination	-3.0590	-0.6864	-9.54		
0.56	313	436 Shell-Thick	INVSLE Combination	-4.1973	-0.9308	-9.54		
0.53	313	436 Shell-Thick	INVSLE Combination	-9.2671	-1.7954	-20.80		
1.04	313	436 Shell-Thick	INVSLE Combination	-6.8363	-1.3236	-20.80		
1.04	313	436 Shell-Thick	INVSLE Combination	-6.6834	-1.4109	-20.26		
02	302	426 Shell-Thick	INVSLE Combination	-6.9411	-1.3225	-13.19	-4.932E-	
0.67	302	426 Shell-Thick	INVSLE Combination	-5.4105	-1.0338	-13.19		
0.67	302	426 Shell-Thick	INVSLE Combination	-5.0900	-1.0520	-12.40		
02	302	426 Shell-Thick	INVSLE Combination	-6.5727	-1.3803	-12.40	-4.932E-	
02	302	426 Shell-Thick	INVSLE Combination	-12.9707	-2.5437	-24.57	-6.459E-	
0.60	302	426 Shell-Thick	INVSLE Combination	-10.1047	-1.9705	-24.57		
0.60	302	426 Shell-Thick	INVSLE Combination	-9.8493	-1.9944	-23.89		
02	302	426 Shell-Thick	INVSLE Combination	-12.6898	-2.5884	-23.89	-6.459E-	
02	302	426 Shell-Thick	INVSLE Combination	-9.3705	-1.7854	-17.80	-1.807E-	
0.91	302	426 Shell-Thick	INVSLE Combination	-7.3042	-1.3956	-17.80		
0.91	302	426 Shell-Thick	INVSLE Combination	-6.8716	-1.4202	-16.74		
02	302	426 Shell-Thick	INVSLE Combination	-8.8732	-1.8634	-16.74	-1.807E-	
02	302	426 Shell-Thick	INVSLE Combination	-25.3128	-5.0433	-47.88	-8.720E-	
0.45	302	426 Shell-Thick	INVSLE Combination	-19.7133	-3.8880	-47.88		
0.45	302	426 Shell-Thick	INVSLE Combination	-19.5913	-3.9233	-47.39		
02	302	426 Shell-Thick	INVSLE Combination	-25.2111	-5.0615	-47.39	-8.720E-	
02	303	427 Shell-Thick	INVSLE Combination	-6.5299	-1.2393	-12.41	-5.132E-	
0.67	303	427 Shell-Thick	INVSLE Combination	-5.0893	-0.9755	-12.41		
0.67	303	427 Shell-Thick	INVSLE Combination	-4.7608	-0.9927	-11.64		
02	303	427 Shell-Thick	INVSLE Combination	-6.1523	-1.2971	-11.64	-5.132E-	
02	303	427 Shell-Thick	INVSLE Combination	-12.6462	-2.4768	-23.90	-6.552E-	
0.60	303	427 Shell-Thick	INVSLE Combination	-9.8584	-1.9337	-23.90		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 89 di 416
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0.60	303	427 Shell-Thick	INVSLE Combination	-9.5910	-1.9569	-23.21		
02	303	427 Shell-Thick	INVSLE Combination	-12.3510	-2.5227	-23.21	-6.552E-	
02	303	427 Shell-Thick	INVSLE Combination	-8.8154	-1.6731	-16.76	-2.226E-	
0.90	303	427 Shell-Thick	INVSLE Combination	-6.8706	-1.3169	-16.76		
0.90	303	427 Shell-Thick	INVSLE Combination	-6.4270	-1.3402	-15.71		
02	303	427 Shell-Thick	INVSLE Combination	-8.3056	-1.7511	-15.71	-2.226E-	
02	303	427 Shell-Thick	INVSLE Combination	-25.1659	-5.0097	-47.42	-8.846E-	
0.48	303	427 Shell-Thick	INVSLE Combination	-19.6205	-3.8952	-47.42		
0.48	303	427 Shell-Thick	INVSLE Combination	-19.4782	-3.9305	-46.89		
02	303	427 Shell-Thick	INVSLE Combination	-25.0395	-5.0314	-46.89	-8.846E-	
02	304	428 Shell-Thick	INVSLE Combination	-6.1103	-1.1558	-11.65	-5.217E-	
0.64	304	428 Shell-Thick	INVSLE Combination	-4.7581	-0.9111	-11.65		
0.64	304	428 Shell-Thick	INVSLE Combination	-4.4292	-0.9266	-10.89		
02	304	428 Shell-Thick	INVSLE Combination	-5.7315	-1.2126	-10.89	-5.217E-	
02	304	428 Shell-Thick	INVSLE Combination	-12.3071	-2.4081	-23.23	-6.516E-	
0.59	304	428 Shell-Thick	INVSLE Combination	-9.5965	-1.8793	-23.23		
0.59	304	428 Shell-Thick	INVSLE Combination	-9.3297	-1.9001	-22.54		
02	304	428 Shell-Thick	INVSLE Combination	-12.0085	-2.4550	-22.54	-6.516E-	
02	304	428 Shell-Thick	INVSLE Combination	-8.2490	-1.5603	-15.72	-2.558E-	
0.87	304	428 Shell-Thick	INVSLE Combination	-6.4235	-1.2300	-15.72		
0.87	304	428 Shell-Thick	INVSLE Combination	-5.9794	-1.2509	-14.71		
02	304	428 Shell-Thick	INVSLE Combination	-7.7375	-1.6370	-14.71	-2.558E-	
02	304	428 Shell-Thick	INVSLE Combination	-24.9914	-4.9716	-46.93	-8.797E-	
0.49	304	428 Shell-Thick	INVSLE Combination	-19.5005	-3.8612	-46.93		
0.49	304	428 Shell-Thick	INVSLE Combination	-19.3609	-3.8928	-46.38		
02	304	428 Shell-Thick	INVSLE Combination	-24.8574	-4.9981	-46.38	-8.797E-	
02	305	429 Shell-Thick	INVSLE Combination	-5.6922	-1.0743	-10.90	-4.994E-	
0.61	305	429 Shell-Thick	INVSLE Combination	-4.4259	-0.8519	-10.90		
0.61	305	429 Shell-Thick	INVSLE Combination	-4.1021	-0.8658	-10.19		
02	305	429 Shell-Thick	INVSLE Combination	-5.3199	-1.1282	-10.19	-4.994E-	
02	305	429 Shell-Thick	INVSLE Combination	-11.9688	-2.3428	-22.55	-6.312E-	
0.57	305	429 Shell-Thick	INVSLE Combination	-9.3362	-1.8464	-22.55		
0.57	305	429 Shell-Thick	INVSLE Combination	-9.0811	-1.8662	-21.90		
02	305	429 Shell-Thick	INVSLE Combination	-11.6832	-2.3876	-21.90	-6.312E-	
02	305	429 Shell-Thick	INVSLE Combination	-7.6844	-1.4502	-14.72	-2.297E-	
0.82	305	429 Shell-Thick	INVSLE Combination	-5.9750	-1.1501	-14.72		
0.82	305	429 Shell-Thick	INVSLE Combination	-5.5378	-1.1688	-13.76		
02	305	429 Shell-Thick	INVSLE Combination	-7.1819	-1.5230	-13.76	-2.297E-	
02	305	429 Shell-Thick	INVSLE Combination	-24.8169	-4.9394	-46.41	-8.521E-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 90 di 416
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0.49	305	429 Shell-Thick	INVSLU Combination	-19.3875	-3.8819	-46.41		
0.49	305	429 Shell-Thick	INVSLU Combination	-19.2728	-3.9139	-45.86		
02	305	429 Shell-Thick	INVSLU Combination	-24.7086	-4.9657	-45.86	-8.521E-	
02	306	430 Shell-Thick	INVSLE Combination	-5.2826	-0.9949	-10.20	-4.794E-	
0.55	306	430 Shell-Thick	INVSLE Combination	-4.0961	-0.7827	-10.20		
0.55	306	430 Shell-Thick	INVSLE Combination	-3.7784	-0.7938	-9.55		
0.53	313	436 Shell-Thick	INVSLE Combination	-9.0875	-1.9046	-20.26		
0.75	313	436 Shell-Thick	INVSLU Combination	-5.9925	-1.0916	-13.69		
1.51	313	436 Shell-Thick	INVSLU Combination	-4.4001	-0.8077	-13.69		
1.51	313	436 Shell-Thick	INVSLU Combination	-4.1297	-0.9266	-12.88		
0.75	313	436 Shell-Thick	INVSLU Combination	-5.6663	-1.2565	-12.88		
0.47	313	436 Shell-Thick	INVSLU Combination	-19.1501	-3.8154	-42.62		
0.87	313	436 Shell-Thick	INVSLU Combination	-14.1583	-2.8083	-42.62		
0.87	313	436 Shell-Thick	INVSLU Combination	-14.1023	-2.8939	-42.19		
0.47	313	436 Shell-Thick	INVSLU Combination	-19.0975	-3.8979	-42.19		
0.51	314	437 Shell-Thick	INVSLE Combination	-4.1539	-0.7522	-9.55		
1.02	314	437 Shell-Thick	INVSLE Combination	-3.0421	-0.5637	-9.55		
1.02	314	437 Shell-Thick	INVSLE Combination	-2.8438	-0.6431	-9.01		
0.51	314	437 Shell-Thick	INVSLE Combination	-3.9168	-0.8636	-9.01		
0.49	314	437 Shell-Thick	INVSLE Combination	-9.0442	-1.7404	-20.27		
0.96	314	437 Shell-Thick	INVSLE Combination	-6.6750	-1.3169	-20.27		
0.96	314	437 Shell-Thick	INVSLE Combination	-6.5300	-1.3972	-19.77		
0.49	314	437 Shell-Thick	INVSLE Combination	-8.8750	-1.8406	-19.77		
0.69	314	437 Shell-Thick	INVSLU Combination	-5.6078	-1.0154	-12.89		
1.37	314	437 Shell-Thick	INVSLU Combination	-4.1069	-0.7610	-12.89		
1.37	314	437 Shell-Thick	INVSLU Combination	-3.8391	-0.8682	-12.16		
0.69	314	437 Shell-Thick	INVSLU Combination	-5.2877	-1.1659	-12.16		
0.44	314	437 Shell-Thick	INVSLU Combination	-19.0545	-3.7632	-42.21		
0.83	314	437 Shell-Thick	INVSLU Combination	-14.1114	-2.8588	-42.21		
0.83	314	437 Shell-Thick	INVSLU Combination	-14.0755	-2.9409	-41.80		
0.44	314	437 Shell-Thick	INVSLU Combination	-19.0242	-3.8404	-41.80		
0.44	315	438 Shell-Thick	INVSLE Combination	-3.8766	-0.7052	-9.01		
0.87	315	438 Shell-Thick	INVSLE Combination	-2.8242	-0.5023	-9.01		
0.87	315	438 Shell-Thick	INVSLE Combination	-2.6198	-0.5692	-8.55		
0.44	315	438 Shell-Thick	INVSLE Combination	-3.6353	-0.8027	-8.55		
0.42	315	438 Shell-Thick	INVSLE Combination	-8.8345	-1.7219	-19.78		
0.83	315	438 Shell-Thick	INVSLE Combination	-6.5166	-1.2465	-19.78		
0.83	315	438 Shell-Thick	INVSLE Combination	-6.3488	-1.3135	-19.35		
0.42	315	438 Shell-Thick	INVSLE Combination	-8.6392	-1.8116	-19.35		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 91 di 416
0.59	315	438 Shell-Thick	INVSLE Combination	-5.2334	-0.9520	-12.17		
1.18	315	438 Shell-Thick	INVSLE Combination	-3.8126	-0.6781	-12.17		
1.18	315	438 Shell-Thick	INVSLE Combination	-3.5368	-0.7684	-11.54		
0.59	315	438 Shell-Thick	INVSLE Combination	-4.9076	-1.0836	-11.54		
0.39	315	438 Shell-Thick	INVSLE Combination	-18.9831	-3.8030	-41.83		
0.73	315	438 Shell-Thick	INVSLE Combination	-14.0749	-2.7699	-41.83		
0.73	315	438 Shell-Thick	INVSLE Combination	-13.9819	-2.8370	-41.47		
0.39	315	438 Shell-Thick	INVSLE Combination	-18.8819	-3.8768	-41.47		
0.35	316	439 Shell-Thick	INVSLE Combination	-3.5960	-0.6294	-8.55		
0.69	316	439 Shell-Thick	INVSLE Combination	-2.5946	-0.4200	-8.55		
0.69	316	439 Shell-Thick	INVSLE Combination	-2.3990	-0.4719	-8.19		
0.35	316	439 Shell-Thick	INVSLE Combination	-3.3687	-0.7076	-8.19		
0.34	316	439 Shell-Thick	INVSLE Combination	-8.5937	-1.6131	-19.36		
0.67	316	439 Shell-Thick	INVSLE Combination	-6.3235	-1.1578	-19.36		
0.67	316	439 Shell-Thick	INVSLE Combination	-6.1737	-1.2113	-19.01		
0.34	316	439 Shell-Thick	INVSLE Combination	-8.4213	-1.6852	-19.01		
0.47	316	439 Shell-Thick	INVSLE Combination	-4.8546	-0.8498	-11.54		
0.93	316	439 Shell-Thick	INVSLE Combination	-3.5027	-0.5670	-11.54		
0.93	316	439 Shell-Thick	INVSLE Combination	-3.2386	-0.6371	-11.05		
0.47	316	439 Shell-Thick	INVSLE Combination	-4.5478	-0.9553	-11.05		
0.32	316	439 Shell-Thick	INVSLE Combination	-18.8235	-3.6266	-41.47		
0.61	316	439 Shell-Thick	INVSLE Combination	-13.9564	-2.6681	-41.47		
0.61	316	439 Shell-Thick	INVSLE Combination	-13.9003	-2.7248	-41.16		
0.32	316	439 Shell-Thick	INVSLE Combination	-18.7636	-3.6862	-41.16		
1.21	318	440 Shell-Thick	INVSLE Combination	-3.7773	-0.6210	-10.99		
1.75	318	440 Shell-Thick	INVSLE Combination	-2.4996	-0.3509	-10.99		
1.75	318	440 Shell-Thick	INVSLE Combination	-2.4247	-0.5223	-10.42		
1.21	318	440 Shell-Thick	INVSLE Combination	-3.6688	-0.8201	-10.42		
1.08	318	440 Shell-Thick	INVSLE Combination	-7.0974	-1.2943	-20.41		
1.52	318	440 Shell-Thick	INVSLE Combination	-4.7144	-0.7732	-20.41		
1.52	318	440 Shell-Thick	INVSLE Combination	-4.6800	-0.9299	-19.94		
1.08	318	440 Shell-Thick	INVSLE Combination	-7.0482	-1.4632	-19.94		
1.64	318	440 Shell-Thick	INVSLE Combination	-5.0993	-0.8383	-14.84		
2.36	318	440 Shell-Thick	INVSLE Combination	-3.3745	-0.4737	-14.84		
2.36	318	440 Shell-Thick	INVSLE Combination	-3.2734	-0.7052	-14.07		
1.64	318	440 Shell-Thick	INVSLE Combination	-4.9529	-1.1072	-14.07		
0.80	318	440 Shell-Thick	INVSLE Combination	-13.8935	-2.6728	-39.69		
1.06	318	440 Shell-Thick	INVSLE Combination	-9.2479	-1.6378	-39.69		
1.06	318	440 Shell-Thick	INVSLE Combination	-9.2965	-1.7643	-39.41		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 92 di 416
0.80	318	440 Shell-Thick	INVSLU Combination	-13.9657	-2.7795	-39.41		
1.20	319	441 Shell-Thick	INVSLE Combination	-3.6158	-0.6030	-10.43		
1.72	319	441 Shell-Thick	INVSLE Combination	-2.4032	-0.3670	-10.43		
1.72	319	441 Shell-Thick	INVSLE Combination	-2.3202	-0.5355	-9.87		
1.20	319	441 Shell-Thick	INVSLE Combination	-3.4982	-0.7999	-9.87		
1.09	319	441 Shell-Thick	INVSLE Combination	-7.0000	-1.2897	-19.95		
1.54	319	441 Shell-Thick	INVSLE Combination	-4.6709	-0.8172	-19.95		
1.54	319	441 Shell-Thick	INVSLE Combination	-4.6272	-0.9744	-19.47		
1.09	319	441 Shell-Thick	INVSLE Combination	-6.9398	-1.4604	-19.47		
1.62	319	441 Shell-Thick	INVSLE Combination	-4.8813	-0.8140	-14.08		
2.33	319	441 Shell-Thick	INVSLE Combination	-3.2444	-0.4954	-14.08		
2.33	319	441 Shell-Thick	INVSLE Combination	-3.1322	-0.7229	-13.33		
1.62	319	441 Shell-Thick	INVSLE Combination	-4.7226	-1.0798	-13.33		
0.86	319	441 Shell-Thick	INVSLE Combination	-13.9274	-2.6953	-39.43		
1.16	319	441 Shell-Thick	INVSLE Combination	-9.3128	-1.7386	-39.43		
1.16	319	441 Shell-Thick	INVSLE Combination	-9.3496	-1.8729	-39.11		
0.86	319	441 Shell-Thick	INVSLE Combination	-13.9845	-2.8125	-39.11		
1.15	320	442 Shell-Thick	INVSLE Combination	-3.4462	-0.5870	-9.88		
1.66	320	442 Shell-Thick	INVSLE Combination	-2.2972	-0.3732	-9.88		
1.66	320	442 Shell-Thick	INVSLE Combination	-2.2059	-0.5347	-9.34		
1.15	320	442 Shell-Thick	INVSLE Combination	-3.3198	-0.7775	-9.34		
1.06	320	442 Shell-Thick	INVSLE Combination	-6.8920	-1.2969	-19.48		
1.51	320	442 Shell-Thick	INVSLE Combination	-4.6157	-0.8413	-19.48		
1.51	320	442 Shell-Thick	INVSLE Combination	-4.5552	-0.9937	-19.01		
1.06	320	442 Shell-Thick	INVSLE Combination	-6.8116	-1.4657	-19.01		
1.56	320	442 Shell-Thick	INVSLE Combination	-4.6524	-0.7924	-13.33		
2.24	320	442 Shell-Thick	INVSLE Combination	-3.1012	-0.5038	-13.33		
2.24	320	442 Shell-Thick	INVSLE Combination	-2.9780	-0.7218	-12.61		
1.56	320	442 Shell-Thick	INVSLE Combination	-4.4817	-1.0496	-12.61		
0.88	320	442 Shell-Thick	INVSLE Combination	-13.9453	-2.7500	-39.14		
1.19	320	442 Shell-Thick	INVSLE Combination	-9.3616	-1.7994	-39.14		
1.19	320	442 Shell-Thick	INVSLE Combination	-9.3642	-1.9334	-38.81		
0.88	320	442 Shell-Thick	INVSLE Combination	-13.9591	-2.8746	-38.81		
1.08	321	443 Shell-Thick	INVSLE Combination	-3.2694	-0.5624	-9.34		
1.55	321	443 Shell-Thick	INVSLE Combination	-2.1815	-0.3756	-9.34		
1.55	321	443 Shell-Thick	INVSLE Combination	-2.0901	-0.5267	-8.84		
1.08	321	443 Shell-Thick	INVSLE Combination	-3.1441	-0.7413	-8.84		
1.01	321	443 Shell-Thick	INVSLE Combination	-6.7640	-1.2802	-19.02		
1.43	321	443 Shell-Thick	INVSLE Combination	-4.5412	-0.8711	-19.02		

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 93 di 416
1.43	321	443 Shell-Thick	INVSLE Combination	-4.4849	-1.0161	-18.57		
1.01	321	443 Shell-Thick	INVSLE Combination	-6.6886	-1.4409	-18.57		
1.46	321	443 Shell-Thick	INVSLE Combination	-4.4136	-0.7592	-12.62		
2.10	321	443 Shell-Thick	INVSLE Combination	-2.9450	-0.5071	-12.62		
2.10	321	443 Shell-Thick	INVSLE Combination	-2.8217	-0.7110	-11.94		
1.46	321	443 Shell-Thick	INVSLE Combination	-4.2446	-1.0008	-11.94		
0.86	321	443 Shell-Thick	INVSLE Combination	-13.9172	-2.7497	-38.82		
1.18	321	443 Shell-Thick	INVSLE Combination	-9.3714	-1.8853	-38.82		
1.18	321	443 Shell-Thick	INVSLE Combination	-9.3867	-2.0181	-38.48		
0.86	321	443 Shell-Thick	INVSLE Combination	-13.9441	-2.8727	-38.48		
0.98	322	444 Shell-Thick	INVSLE Combination	-3.0963	-0.5398	-8.85		
1.40	322	444 Shell-Thick	INVSLE Combination	-2.0641	-0.3587	-8.85		
1.40	322	444 Shell-Thick	INVSLE Combination	-1.9685	-0.4943	-8.40		
0.98	322	444 Shell-Thick	INVSLE Combination	-2.9678	-0.7026	-8.40		
0.93	322	444 Shell-Thick	INVSLE Combination	-6.6428	-1.2810	-18.58		
1.31	322	444 Shell-Thick	INVSLE Combination	-4.4675	-0.8604	-18.58		
1.31	322	444 Shell-Thick	INVSLE Combination	-4.3904	-0.9912	-18.18		
0.93	322	444 Shell-Thick	INVSLE Combination	-6.5442	-1.4295	-18.18		
1.33	322	444 Shell-Thick	INVSLE Combination	-4.1799	-0.7287	-11.95		
1.89	322	444 Shell-Thick	INVSLE Combination	-2.7865	-0.4842	-11.95		
1.89	322	444 Shell-Thick	INVSLE Combination	-2.6575	-0.6673	-11.34		
1.33	322	444 Shell-Thick	INVSLE Combination	-4.0065	-0.9485	-11.34		
0.81	322	444 Shell-Thick	INVSLE Combination	-13.9025	-2.7982	-38.51		
1.11	322	444 Shell-Thick	INVSLE Combination	-9.3872	-1.8874	-38.51		
1.11	322	444 Shell-Thick	INVSLE Combination	-9.3479	-2.0083	-38.19		
0.81	322	444 Shell-Thick	INVSLE Combination	-13.8648	-2.9176	-38.19		
0.85	323	445 Shell-Thick	INVSLE Combination	-2.9217	-0.4948	-8.40		
1.20	323	445 Shell-Thick	INVSLE Combination	-1.9395	-0.3264	-8.40		
1.20	323	445 Shell-Thick	INVSLE Combination	-1.8609	-0.4424	-8.03		
0.85	323	445 Shell-Thick	INVSLE Combination	-2.8138	-0.6350	-8.03		
0.81	323	445 Shell-Thick	INVSLE Combination	-6.4958	-1.2223	-18.18		
1.13	323	445 Shell-Thick	INVSLE Combination	-4.3659	-0.8338	-18.18		
1.13	323	445 Shell-Thick	INVSLE Combination	-4.3246	-0.9478	-17.84		
0.81	323	445 Shell-Thick	INVSLE Combination	-6.4366	-1.3511	-17.84		
1.14	323	445 Shell-Thick	INVSLE Combination	-3.9443	-0.6679	-11.35		
1.62	323	445 Shell-Thick	INVSLE Combination	-2.6183	-0.4406	-11.35		
1.62	323	445 Shell-Thick	INVSLE Combination	-2.5122	-0.5972	-10.84		
1.14	323	445 Shell-Thick	INVSLE Combination	-3.7986	-0.8572	-10.84		
0.73	323	445 Shell-Thick	INVSLE Combination	-13.8120	-2.7116	-38.20		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 94 di 416
0.99	323	445 Shell-Thick	INVS LU Combination	-9.3324	-1.8726	-38.20		
0.99	323	445 Shell-Thick	INVS LU Combination	-9.3676	-1.9825	-37.92		
0.73	323	445 Shell-Thick	INVS LU Combination	-13.8525	-2.8168	-37.92		
0.67	324	446 Shell-Thick	INVS LE Combination	-2.7690	-0.4361	-8.03		
0.94	324	446 Shell-Thick	INVS LE Combination	-1.8266	-0.2463	-8.03		
0.94	324	446 Shell-Thick	INVS LE Combination	-1.7667	-0.3358	-7.75		
0.67	324	446 Shell-Thick	INVS LE Combination	-2.6827	-0.5475	-7.75		
0.65	324	446 Shell-Thick	INVS LE Combination	-6.3834	-1.1522	-17.85		
0.89	324	446 Shell-Thick	INVS LE Combination	-4.2863	-0.6888	-17.85		
0.89	324	446 Shell-Thick	INVS LE Combination	-4.2350	-0.7765	-17.59		
0.65	324	446 Shell-Thick	INVS LE Combination	-6.3119	-1.2566	-17.59		
0.91	324	446 Shell-Thick	INVS LU Combination	-3.7382	-0.5887	-10.84		
1.26	324	446 Shell-Thick	INVS LU Combination	-2.4659	-0.3325	-10.84		
1.26	324	446 Shell-Thick	INVS LU Combination	-2.3850	-0.4534	-10.46		
0.91	324	446 Shell-Thick	INVS LU Combination	-3.6217	-0.7391	-10.46		
0.60	324	446 Shell-Thick	INVS LU Combination	-13.7817	-2.6180	-37.95		
0.79	324	446 Shell-Thick	INVS LU Combination	-9.3211	-1.5947	-37.95		
0.79	324	446 Shell-Thick	INVS LU Combination	-9.2876	-1.6784	-37.74		
0.60	324	446 Shell-Thick	INVS LU Combination	-13.7406	-2.7080	-37.74		
1.71	326	447 Shell-Thick	INVS LE Combination	-2.4328	-0.3022	-9.90		
2.16	326	447 Shell-Thick	INVS LE Combination	-1.2814	-0.0481	-9.90		
2.16	326	447 Shell-Thick	INVS LE Combination	-1.2920	-0.2790	-9.42		
1.71	326	447 Shell-Thick	INVS LE Combination	-2.4158	-0.5559	-9.42		
1.50	326	447 Shell-Thick	INVS LE Combination	-4.5931	-0.7263	-18.35		
1.86	326	447 Shell-Thick	INVS LE Combination	-2.4496	-0.2464	-18.35		
1.86	326	447 Shell-Thick	INVS LE Combination	-2.4869	-0.4527	-17.97		
1.50	326	447 Shell-Thick	INVS LE Combination	-4.6205	-0.9407	-17.97		
2.31	326	447 Shell-Thick	INVS LU Combination	-3.2843	-0.4079	-13.36		
2.92	326	447 Shell-Thick	INVS LU Combination	-1.7299	-0.0650	-13.36		
2.92	326	447 Shell-Thick	INVS LU Combination	-1.7442	-0.3767	-12.72		
2.31	326	447 Shell-Thick	INVS LU Combination	-3.2613	-0.7504	-12.72		
1.07	326	447 Shell-Thick	INVS LU Combination	-9.0152	-1.5943	-35.66		
1.25	326	447 Shell-Thick	INVS LU Combination	-4.8408	-0.6522	-35.66		
1.25	326	447 Shell-Thick	INVS LU Combination	-4.9328	-0.8083	-35.46		
1.07	326	447 Shell-Thick	INVS LU Combination	-9.1334	-1.7285	-35.46		
1.69	327	448 Shell-Thick	INVS LE Combination	-2.3611	-0.3230	-9.43		
2.13	327	448 Shell-Thick	INVS LE Combination	-1.2639	-0.0979	-9.43		
2.13	327	448 Shell-Thick	INVS LE Combination	-1.2652	-0.3247	-8.96		
1.69	327	448 Shell-Thick	INVS LE Combination	-2.3333	-0.5737	-8.96		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 95 di 416
1.51	327	448 Shell-Thick	INVSLE	Combination	-4.5742	-0.7725	-17.98	
1.88	327	448 Shell-Thick	INVSLE	Combination	-2.4732	-0.3209	-17.98	
1.88	327	448 Shell-Thick	INVSLE	Combination	-2.4930	-0.5275	-17.59	
1.51	327	448 Shell-Thick	INVSLE	Combination	-4.5803	-0.9903	-17.59	
2.28	327	448 Shell-Thick	INVSLE	Combination	-3.1874	-0.4360	-12.73	
2.87	327	448 Shell-Thick	INVSLE	Combination	-1.7063	-0.1322	-12.73	
2.87	327	448 Shell-Thick	INVSLE	Combination	-1.7080	-0.4383	-12.10	
2.28	327	448 Shell-Thick	INVSLE	Combination	-3.1500	-0.7745	-12.10	
1.15	327	448 Shell-Thick	INVSLE	Combination	-9.1042	-1.6927	-35.48	
1.37	327	448 Shell-Thick	INVSLE	Combination	-4.9486	-0.7774	-35.48	
1.37	327	448 Shell-Thick	INVSLE	Combination	-5.0064	-0.9428	-35.25	
1.15	327	448 Shell-Thick	INVSLE	Combination	-9.1797	-1.8432	-35.25	
1.63	328	449 Shell-Thick	INVSLE	Combination	-2.2790	-0.3356	-8.96	
2.05	328	449 Shell-Thick	INVSLE	Combination	-1.2355	-0.1424	-8.96	
2.05	328	449 Shell-Thick	INVSLE	Combination	-1.2341	-0.3603	-8.51	
1.63	328	449 Shell-Thick	INVSLE	Combination	-2.2488	-0.5772	-8.51	
1.48	328	449 Shell-Thick	INVSLE	Combination	-4.5327	-0.8007	-17.60	
1.85	328	449 Shell-Thick	INVSLE	Combination	-2.4764	-0.3961	-17.60	
1.85	328	449 Shell-Thick	INVSLE	Combination	-2.4970	-0.5985	-17.21	
1.48	328	449 Shell-Thick	INVSLE	Combination	-4.5393	-1.0145	-17.21	
2.19	328	449 Shell-Thick	INVSLE	Combination	-3.0766	-0.4530	-12.10	
2.77	328	449 Shell-Thick	INVSLE	Combination	-1.6679	-0.1922	-12.10	
2.77	328	449 Shell-Thick	INVSLE	Combination	-1.6660	-0.4863	-11.49	
2.19	328	449 Shell-Thick	INVSLE	Combination	-3.0359	-0.7792	-11.49	
1.19	328	449 Shell-Thick	INVSLE	Combination	-9.1459	-1.7528	-35.26	
1.43	328	449 Shell-Thick	INVSLE	Combination	-5.0167	-0.9154	-35.26	
1.43	328	449 Shell-Thick	INVSLE	Combination	-5.0821	-1.0861	-35.01	
1.19	328	449 Shell-Thick	INVSLE	Combination	-9.2278	-1.9096	-35.01	
1.52	329	450 Shell-Thick	INVSLE	Combination	-2.1960	-0.3462	-8.52	
1.91	329	450 Shell-Thick	INVSLE	Combination	-1.2030	-0.1719	-8.52	
1.91	329	450 Shell-Thick	INVSLE	Combination	-1.1951	-0.3749	-8.10	
1.52	329	450 Shell-Thick	INVSLE	Combination	-2.1595	-0.5729	-8.10	
1.41	329	450 Shell-Thick	INVSLE	Combination	-4.4921	-0.8359	-17.22	
1.75	329	450 Shell-Thick	INVSLE	Combination	-2.4777	-0.4445	-17.22	
1.75	329	450 Shell-Thick	INVSLE	Combination	-2.4785	-0.6351	-16.86	
1.41	329	450 Shell-Thick	INVSLE	Combination	-4.4766	-1.0399	-16.86	
2.05	329	450 Shell-Thick	INVSLE	Combination	-2.9646	-0.4674	-11.50	
2.58	329	450 Shell-Thick	INVSLE	Combination	-1.6241	-0.2321	-11.50	
2.58	329	450 Shell-Thick	INVSLE	Combination	-1.6133	-0.5062	-10.94	

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 96 di 416
2.05	329	450 Shell-Thick	INVSLU Combination	-2.9153	-0.7734	-10.94		
1.17	329	450 Shell-Thick	INVSLU Combination	-9.1921	-1.8381	-35.03		
1.41	329	450 Shell-Thick	INVSLU Combination	-5.0868	-1.0024	-35.03		
1.41	329	450 Shell-Thick	INVSLU Combination	-5.1055	-1.1676	-34.77		
1.17	329	450 Shell-Thick	INVSLU Combination	-9.2195	-1.9960	-34.77		
1.37	330	451 Shell-Thick	INVSLE Combination	-2.1084	-0.3400	-8.11		
1.72	330	451 Shell-Thick	INVSLE Combination	-1.1623	-0.1889	-8.11		
1.72	330	451 Shell-Thick	INVSLE Combination	-1.1628	-0.3716	-7.74		
1.37	330	451 Shell-Thick	INVSLE Combination	-2.0825	-0.5446	-7.74		
1.29	330	451 Shell-Thick	INVSLE Combination	-4.4282	-0.8335	-16.86		
1.59	330	451 Shell-Thick	INVSLE Combination	-2.4547	-0.4807	-16.86		
1.59	330	451 Shell-Thick	INVSLE Combination	-2.4781	-0.6551	-16.54		
1.29	330	451 Shell-Thick	INVSLE Combination	-4.4373	-1.0196	-16.54		
1.86	330	451 Shell-Thick	INVSLE Combination	-2.8464	-0.4591	-10.94		
2.32	330	451 Shell-Thick	INVSLE Combination	-1.5691	-0.2550	-10.94		
2.32	330	451 Shell-Thick	INVSLE Combination	-1.5698	-0.5016	-10.45		
1.86	330	451 Shell-Thick	INVSLE Combination	-2.8114	-0.7352	-10.45		
1.11	330	451 Shell-Thick	INVSLE Combination	-9.1766	-1.8436	-34.78		
1.33	330	451 Shell-Thick	INVSLE Combination	-5.1001	-1.0782	-34.78		
1.33	330	451 Shell-Thick	INVSLE Combination	-5.1704	-1.2354	-34.54		
1.11	330	451 Shell-Thick	INVSLE Combination	-9.2575	-1.9919	-34.54		
1.18	331	452 Shell-Thick	INVSLE Combination	-2.0339	-0.3214	-7.74		
1.46	331	452 Shell-Thick	INVSLE Combination	-1.1280	-0.1778	-7.74		
1.46	331	452 Shell-Thick	INVSLE Combination	-1.1313	-0.3327	-7.44		
1.18	331	452 Shell-Thick	INVSLE Combination	-2.0127	-0.4966	-7.44		
1.11	331	452 Shell-Thick	INVSLE Combination	-4.3879	-0.8178	-16.54		
1.37	331	452 Shell-Thick	INVSLE Combination	-2.4480	-0.4596	-16.54		
1.37	331	452 Shell-Thick	INVSLE Combination	-2.4557	-0.6082	-16.27		
1.11	331	452 Shell-Thick	INVSLE Combination	-4.3800	-0.9794	-16.27		
1.59	331	452 Shell-Thick	INVSLE Combination	-2.7458	-0.4339	-10.45		
1.97	331	452 Shell-Thick	INVSLE Combination	-1.5228	-0.2400	-10.45		
1.97	331	452 Shell-Thick	INVSLE Combination	-1.5273	-0.4491	-10.04		
1.59	331	452 Shell-Thick	INVSLE Combination	-2.7171	-0.6704	-10.04		
0.98	331	452 Shell-Thick	INVSLE Combination	-9.2064	-1.8340	-34.56		
1.17	331	452 Shell-Thick	INVSLE Combination	-5.1501	-1.0363	-34.56		
1.17	331	452 Shell-Thick	INVSLE Combination	-5.1667	-1.1721	-34.36		
0.98	331	452 Shell-Thick	INVSLE Combination	-9.2256	-1.9675	-34.36		
0.92	332	453 Shell-Thick	INVSLE Combination	-1.9653	-0.2594	-7.44		
1.13	332	453 Shell-Thick	INVSLE Combination	-1.0928	-0.1406	-7.44		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 97 di 416
1.13	332	453 Shell-Thick	INVSLE Combination	-1.1416	-0.2605	-7.21		
0.92	332	453 Shell-Thick	INVSLE Combination	-1.9941	-0.3959	-7.21		
0.88	332	453 Shell-Thick	INVSLE Combination	-4.3213	-0.6931	-16.27		
1.07	332	453 Shell-Thick	INVSLE Combination	-2.4112	-0.3786	-16.27		
1.07	332	453 Shell-Thick	INVSLE Combination	-2.5365	-0.4963	-16.08		
0.88	332	453 Shell-Thick	INVSLE Combination	-4.4360	-0.8194	-16.08		
1.24	332	453 Shell-Thick	INVSLE Combination	-2.6532	-0.3502	-10.04		
1.53	332	453 Shell-Thick	INVSLE Combination	-1.4753	-0.1897	-10.04		
1.53	332	453 Shell-Thick	INVSLE Combination	-1.5411	-0.3517	-9.74		
1.24	332	453 Shell-Thick	INVSLE Combination	-2.6920	-0.5345	-9.74		
0.81	332	453 Shell-Thick	INVSLE Combination	-9.1437	-1.5807	-34.36		
0.94	332	453 Shell-Thick	INVSLE Combination	-5.1100	-0.8657	-34.36		
0.94	332	453 Shell-Thick	INVSLE Combination	-5.3918	-0.9790	-34.23		
0.81	332	453 Shell-Thick	INVSLE Combination	-9.4346	-1.6863	-34.23		
2.13	334	454 Shell-Thick	INVSLE Combination	-1.2427	-0.0101	-8.81		
2.50	334	454 Shell-Thick	INVSLE Combination	-0.2168	0.2407	-8.81		
2.50	334	454 Shell-Thick	INVSLE Combination	-0.2896	-0.0047	-8.42		
2.13	334	454 Shell-Thick	INVSLE Combination	-1.2923	-0.3093	-8.42		
1.84	334	454 Shell-Thick	INVSLE Combination	-2.3747	-0.2117	-16.31		
2.13	334	454 Shell-Thick	INVSLE Combination	-0.4676	0.2299	-16.31		
2.13	334	454 Shell-Thick	INVSLE Combination	-0.5452	-0.0502	-16.01		
1.84	334	454 Shell-Thick	INVSLE Combination	-2.4442	-0.4638	-16.01		
2.88	334	454 Shell-Thick	INVSLE Combination	-1.6776	-0.0136	-11.89		
3.38	334	454 Shell-Thick	INVSLE Combination	-0.2927	0.3266	-11.89		
3.38	334	454 Shell-Thick	INVSLE Combination	-0.3910	0.0885	-11.36		
2.88	334	454 Shell-Thick	INVSLE Combination	-1.7446	-0.4176	-11.36		
1.26	334	454 Shell-Thick	INVSLE Combination	-4.6920	-0.6245	-31.68		
1.38	334	454 Shell-Thick	INVSLE Combination	-0.9810	0.2629	-31.68		
1.38	334	454 Shell-Thick	INVSLE Combination	-1.0684	-0.0678	-31.54		
1.26	334	454 Shell-Thick	INVSLE Combination	-4.8020	-0.7801	-31.54		
2.10	335	455 Shell-Thick	INVSLE Combination	-1.2373	-0.0628	-8.42		
2.47	335	455 Shell-Thick	INVSLE Combination	-0.2568	0.1424	-8.42		
2.47	335	455 Shell-Thick	INVSLE Combination	-0.3272	-0.1295	-8.03		
2.10	335	455 Shell-Thick	INVSLE Combination	-1.2840	-0.3582	-8.03		
1.86	335	455 Shell-Thick	INVSLE Combination	-2.4005	-0.2870	-16.01		
2.16	335	455 Shell-Thick	INVSLE Combination	-0.5289	0.1183	-16.01		
2.16	335	455 Shell-Thick	INVSLE Combination	-0.6077	-0.1334	-15.70		
1.86	335	455 Shell-Thick	INVSLE Combination	-2.4702	-0.5423	-15.70		
2.83	335	455 Shell-Thick	INVSLE Combination	-1.6703	-0.0848	-11.37		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 98 di 416
3.33	335	455 Shell-Thick	INVSLU Combination	-0.3467	0.1923	-11.37		
3.33	335	455 Shell-Thick	INVSLU Combination	-0.4417	-0.1215	-10.84		
2.83	335	455 Shell-Thick	INVSLU Combination	-1.7334	-0.4835	-10.84		
1.38	335	455 Shell-Thick	INVSLU Combination	-4.7817	-0.7459	-31.56		
1.53	335	455 Shell-Thick	INVSLU Combination	-1.0858	0.0691	-31.56		
1.53	335	455 Shell-Thick	INVSLU Combination	-1.1820	-0.1800	-31.39		
1.38	335	455 Shell-Thick	INVSLU Combination	-4.8984	-0.9193	-31.39		
2.02	336	456 Shell-Thick	INVSLE Combination	-1.2291	-0.1119	-8.03		
2.37	336	456 Shell-Thick	INVSLE Combination	-0.2928	0.0668	-8.03		
2.37	336	456 Shell-Thick	INVSLE Combination	-0.3561	-0.1976	-7.66		
2.02	336	456 Shell-Thick	INVSLE Combination	-1.2683	-0.3963	-7.66		
1.82	336	456 Shell-Thick	INVSLE Combination	-2.4252	-0.3644	-15.70		
2.12	336	456 Shell-Thick	INVSLE Combination	-0.5884	0.0144	-15.70		
2.12	336	456 Shell-Thick	INVSLE Combination	-0.6509	-0.2272	-15.39		
1.82	336	456 Shell-Thick	INVSLE Combination	-2.4760	-0.6157	-15.39		
2.73	336	456 Shell-Thick	INVSLE Combination	-1.6593	-0.1511	-10.85		
3.20	336	456 Shell-Thick	INVSLE Combination	-0.3953	0.0902	-10.85		
3.20	336	456 Shell-Thick	INVSLE Combination	-0.4808	-0.2668	-10.34		
2.73	336	456 Shell-Thick	INVSLE Combination	-1.7122	-0.5350	-10.34		
1.42	336	456 Shell-Thick	INVSLE Combination	-4.8737	-0.8813	-31.41		
1.60	336	456 Shell-Thick	INVSLE Combination	-1.1934	-0.0929	-31.41		
1.60	336	456 Shell-Thick	INVSLE Combination	-1.2541	-0.3112	-31.22		
1.42	336	456 Shell-Thick	INVSLE Combination	-4.9481	-1.0648	-31.22		
1.89	337	457 Shell-Thick	INVSLE Combination	-1.2144	-0.1479	-7.67		
2.21	337	457 Shell-Thick	INVSLE Combination	-0.3204	0.0022	-7.67		
2.21	337	457 Shell-Thick	INVSLE Combination	-0.3857	-0.2444	-7.32		
1.89	337	457 Shell-Thick	INVSLE Combination	-1.2567	-0.4135	-7.32		
1.73	337	457 Shell-Thick	INVSLE Combination	-2.4296	-0.4173	-15.40		
2.01	337	457 Shell-Thick	INVSLE Combination	-0.6281	-0.0802	-15.40		
2.01	337	457 Shell-Thick	INVSLE Combination	-0.7023	-0.3096	-15.11		
1.73	337	457 Shell-Thick	INVSLE Combination	-2.4930	-0.6555	-15.11		
2.55	337	457 Shell-Thick	INVSLE Combination	-1.6394	-0.1996	-10.35		
2.98	337	457 Shell-Thick	INVSLE Combination	-0.4325	0.0029	-10.35		
2.98	337	457 Shell-Thick	INVSLE Combination	-0.5207	-0.3300	-9.89		
2.55	337	457 Shell-Thick	INVSLE Combination	-1.6965	-0.5583	-9.89		
1.41	337	457 Shell-Thick	INVSLE Combination	-4.9171	-0.9688	-31.23		
1.59	337	457 Shell-Thick	INVSLE Combination	-1.2581	-0.2489	-31.23		
1.59	337	457 Shell-Thick	INVSLE Combination	-1.3505	-0.4429	-31.04		
1.41	337	457 Shell-Thick	INVSLE Combination	-5.0237	-1.1509	-31.04		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 99 di 416
1.70	338	458 Shell-Thick	INVSLE	Combination	-1.2049	-0.1730	-7.32	
1.98	338	458 Shell-Thick	INVSLE	Combination	-0.3490	-0.0427	-7.32	
1.98	338	458 Shell-Thick	INVSLE	Combination	-0.4093	-0.2634	-7.02	
1.70	338	458 Shell-Thick	INVSLE	Combination	-1.2431	-0.4120	-7.02	
1.57	338	458 Shell-Thick	INVSLE	Combination	-2.4464	-0.4596	-15.11	
1.82	338	458 Shell-Thick	INVSLE	Combination	-0.6762	-0.1419	-15.11	
1.82	338	458 Shell-Thick	INVSLE	Combination	-0.7324	-0.3492	-14.85	
1.57	338	458 Shell-Thick	INVSLE	Combination	-2.4905	-0.6770	-14.85	
2.29	338	458 Shell-Thick	INVSLE	Combination	-1.6266	-0.2335	-9.89	
2.67	338	458 Shell-Thick	INVSLE	Combination	-0.4711	-0.0576	-9.89	
2.67	338	458 Shell-Thick	INVSLE	Combination	-0.5526	-0.3556	-9.48	
2.29	338	458 Shell-Thick	INVSLE	Combination	-1.6782	-0.5562	-9.48	
1.33	338	458 Shell-Thick	INVSLE	Combination	-4.9877	-1.0464	-31.05	
1.50	338	458 Shell-Thick	INVSLE	Combination	-1.3459	-0.3449	-31.05	
1.50	338	458 Shell-Thick	INVSLE	Combination	-1.3939	-0.5248	-30.87	
1.33	338	458 Shell-Thick	INVSLE	Combination	-5.0439	-1.2194	-30.87	
1.44	339	459 Shell-Thick	INVSLE	Combination	-1.1937	-0.1722	-7.02	
1.67	339	459 Shell-Thick	INVSLE	Combination	-0.3714	-0.0671	-7.02	
1.67	339	459 Shell-Thick	INVSLE	Combination	-0.4468	-0.2541	-6.78	
1.44	339	459 Shell-Thick	INVSLE	Combination	-1.2498	-0.3752	-6.78	
1.36	339	459 Shell-Thick	INVSLE	Combination	-2.4412	-0.4481	-14.85	
1.56	339	459 Shell-Thick	INVSLE	Combination	-0.7002	-0.1705	-14.85	
1.56	339	459 Shell-Thick	INVSLE	Combination	-0.8031	-0.3490	-14.64	
1.36	339	459 Shell-Thick	INVSLE	Combination	-2.5351	-0.6341	-14.64	
1.95	339	459 Shell-Thick	INVSLE	Combination	-1.6116	-0.2324	-9.48	
2.26	339	459 Shell-Thick	INVSLE	Combination	-0.5014	-0.0905	-9.48	
2.26	339	459 Shell-Thick	INVSLE	Combination	-0.6032	-0.3430	-9.15	
1.95	339	459 Shell-Thick	INVSLE	Combination	-1.6873	-0.5065	-9.15	
1.18	339	459 Shell-Thick	INVSLE	Combination	-4.9948	-1.0130	-30.88	
1.32	339	459 Shell-Thick	INVSLE	Combination	-1.3731	-0.3821	-30.88	
1.32	339	459 Shell-Thick	INVSLE	Combination	-1.5324	-0.5433	-30.73	
1.18	339	459 Shell-Thick	INVSLE	Combination	-5.1659	-1.1642	-30.73	
1.11	340	460 Shell-Thick	INVSLE	Combination	-1.2045	-0.1450	-6.78	
1.28	340	460 Shell-Thick	INVSLE	Combination	-0.4089	-0.0685	-6.78	
1.28	340	460 Shell-Thick	INVSLE	Combination	-0.4798	-0.2114	-6.59	
1.11	340	460 Shell-Thick	INVSLE	Combination	-1.2586	-0.3018	-6.59	
1.05	340	460 Shell-Thick	INVSLE	Combination	-2.4835	-0.3752	-14.64	
1.20	340	460 Shell-Thick	INVSLE	Combination	-0.7649	-0.1592	-14.64	
1.20	340	460 Shell-Thick	INVSLE	Combination	-0.8535	-0.2966	-14.48	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 100 di 416
1.05	340	460 Shell-Thick	INVSLE Combination	-2.5636	-0.5195	-14.48		
1.50	340	460 Shell-Thick	INVSLE Combination	-1.6261	-0.1957	-9.15		
1.73	340	460 Shell-Thick	INVSLE Combination	-0.5521	-0.0925	-9.15		
1.73	340	460 Shell-Thick	INVSLE Combination	-0.6477	-0.2854	-8.90		
1.50	340	460 Shell-Thick	INVSLE Combination	-1.6991	-0.4074	-8.90		
0.92	340	460 Shell-Thick	INVSLE Combination	-5.1014	-0.8464	-30.73		
1.04	340	460 Shell-Thick	INVSLE Combination	-1.4936	-0.3449	-30.73		
1.04	340	460 Shell-Thick	INVSLE Combination	-1.6186	-0.4709	-30.61		
0.92	340	460 Shell-Thick	INVSLE Combination	-5.2349	-0.9652	-30.61		
2.48	342	461 Shell-Thick	INVSLE Combination	-0.1978	0.2648	-7.73		
2.78	342	461 Shell-Thick	INVSLE Combination	1.2498	0.6701	-7.73		
2.78	342	461 Shell-Thick	INVSLE Combination	1.1359	0.3928	-7.40		
2.48	342	461 Shell-Thick	INVSLE Combination	-0.3008	-0.0166	-7.40		
2.12	342	461 Shell-Thick	INVSLE Combination	-0.4216	0.2589	-14.29		
2.35	342	461 Shell-Thick	INVSLE Combination	0.7026	0.4769	-14.29		
2.35	342	461 Shell-Thick	INVSLE Combination	0.5808	0.1559	-14.05		
2.12	342	461 Shell-Thick	INVSLE Combination	-0.5304	-0.0776	-14.05		
3.34	342	461 Shell-Thick	INVSLE Combination	-0.2670	0.3584	-10.43		
3.75	342	461 Shell-Thick	INVSLE Combination	2.3698	1.0657	-10.43		
3.75	342	461 Shell-Thick	INVSLE Combination	2.2721	0.8776	-10.00		
3.34	342	461 Shell-Thick	INVSLE Combination	-0.4060	0.1083	-10.00		
1.39	342	461 Shell-Thick	INVSLE Combination	-0.8796	0.2770	-27.73		
1.46	342	461 Shell-Thick	INVSLE Combination	0.9485	0.6438	-27.73		
1.46	342	461 Shell-Thick	INVSLE Combination	0.7841	0.2105	-27.65		
1.39	342	461 Shell-Thick	INVSLE Combination	-1.0004	-0.1048	-27.65		
2.44	343	462 Shell-Thick	INVSLE Combination	-0.2467	0.1699	-7.41		
2.74	343	462 Shell-Thick	INVSLE Combination	1.1531	0.5158	-7.41		
2.74	343	462 Shell-Thick	INVSLE Combination	1.0484	0.2360	-7.09		
2.44	343	462 Shell-Thick	INVSLE Combination	-0.3447	-0.1428	-7.09		
2.14	343	462 Shell-Thick	INVSLE Combination	-0.4910	0.1432	-14.06		
2.38	343	462 Shell-Thick	INVSLE Combination	0.6166	0.3578	-14.06		
2.38	343	462 Shell-Thick	INVSLE Combination	0.4989	0.0419	-13.80		
2.14	343	462 Shell-Thick	INVSLE Combination	-0.5881	-0.1623	-13.80		
3.29	343	462 Shell-Thick	INVSLE Combination	-0.3331	0.2293	-10.00		
3.70	343	462 Shell-Thick	INVSLE Combination	2.2512	0.8393	-10.00		
3.70	343	462 Shell-Thick	INVSLE Combination	2.1732	0.6334	-9.57		
3.29	343	462 Shell-Thick	INVSLE Combination	-0.4653	-0.1029	-9.57		
1.53	343	462 Shell-Thick	INVSLE Combination	-0.9911	0.0886	-27.66		
1.64	343	462 Shell-Thick	INVSLE Combination	0.8325	0.4830	-27.66		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 101 di 416
1.64	343	462 Shell-Thick	INVSLU Combination	0.6736	0.0566	-27.55		
1.53	343	462 Shell-Thick	INVSLE Combination	-1.0862	-0.2191	-27.55		
2.34	344	463 Shell-Thick	INVSLE Combination	-0.2903	0.0912	-7.09		
2.63	344	463 Shell-Thick	INVSLE Combination	1.0691	0.3684	-7.09		
2.63	344	463 Shell-Thick	INVSLE Combination	0.9563	0.0939	-6.79		
2.34	344	463 Shell-Thick	INVSLE Combination	-0.3888	-0.2280	-6.79		
2.10	344	463 Shell-Thick	INVSLE Combination	-0.5461	0.0381	-13.81		
2.34	344	463 Shell-Thick	INVSLE Combination	0.5365	0.2480	-13.81		
2.34	344	463 Shell-Thick	INVSLE Combination	0.4185	-0.0552	-13.56		
2.10	344	463 Shell-Thick	INVSLE Combination	-0.6513	-0.2426	-13.56		
3.17	344	463 Shell-Thick	INVSLE Combination	-0.3919	0.1232	-9.57		
3.55	344	463 Shell-Thick	INVSLE Combination	2.1594	0.6148	-9.57		
3.55	344	463 Shell-Thick	INVSLE Combination	2.0572	0.3993	-9.16		
3.17	344	463 Shell-Thick	INVSLE Combination	-0.5249	-0.2723	-9.16		
1.60	344	463 Shell-Thick	INVSLE Combination	-1.0697	-0.0706	-27.56		
1.73	344	463 Shell-Thick	INVSLE Combination	0.7242	0.3348	-27.56		
1.73	344	463 Shell-Thick	INVSLE Combination	0.5650	-0.0746	-27.42		
1.60	344	463 Shell-Thick	INVSLE Combination	-1.1884	-0.3296	-27.42		
2.19	345	464 Shell-Thick	INVSLE Combination	-0.3355	0.0221	-6.79		
2.45	345	464 Shell-Thick	INVSLE Combination	0.9798	0.2423	-6.79		
2.45	345	464 Shell-Thick	INVSLE Combination	0.8827	-0.0166	-6.51		
2.19	345	464 Shell-Thick	INVSLE Combination	-0.4271	-0.2757	-6.51		
1.99	345	464 Shell-Thick	INVSLE Combination	-0.6084	-0.0591	-13.56		
2.21	345	464 Shell-Thick	INVSLE Combination	0.4570	0.1536	-13.56		
2.21	345	464 Shell-Thick	INVSLE Combination	0.3461	-0.1284	-13.33		
1.99	345	464 Shell-Thick	INVSLE Combination	-0.6963	-0.3255	-13.33		
2.95	345	464 Shell-Thick	INVSLE Combination	-0.4529	0.0298	-9.16		
3.31	345	464 Shell-Thick	INVSLE Combination	2.0499	0.4240	-9.16		
3.31	345	464 Shell-Thick	INVSLE Combination	1.9809	0.2121	-8.79		
2.95	345	464 Shell-Thick	INVSLE Combination	-0.5766	-0.3722	-8.79		
1.59	345	464 Shell-Thick	INVSLE Combination	-1.1669	-0.2254	-27.44		
1.72	345	464 Shell-Thick	INVSLE Combination	0.6169	0.2073	-27.44		
1.72	345	464 Shell-Thick	INVSLE Combination	0.4673	-0.1733	-27.30		
1.59	345	464 Shell-Thick	INVSLE Combination	-1.2474	-0.4470	-27.30		
1.96	346	465 Shell-Thick	INVSLE Combination	-0.3758	-0.0286	-6.51		
2.19	346	465 Shell-Thick	INVSLE Combination	0.9093	0.1366	-6.51		
2.19	346	465 Shell-Thick	INVSLE Combination	0.7931	-0.0988	-6.26		
1.96	346	465 Shell-Thick	INVSLE Combination	-0.4717	-0.2954	-6.26		
1.81	346	465 Shell-Thick	INVSLE Combination	-0.6523	-0.1253	-13.33		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 102 di 416
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2.00	346	465 Shell-Thick	INVSLE Combination	0.3851	0.0760	-13.33		
2.00	346	465 Shell-Thick	INVSLE Combination	0.2716	-0.1763	-13.13		
1.81	346	465 Shell-Thick	INVSLE Combination	-0.7611	-0.3668	-13.13		
2.65	346	465 Shell-Thick	INVSLE Combination	-0.5073	-0.0386	-8.79		
2.96	346	465 Shell-Thick	INVSLE Combination	1.9825	0.2608	-8.79		
2.96	346	465 Shell-Thick	INVSLE Combination	1.8606	0.0599	-8.46		
2.65	346	465 Shell-Thick	INVSLE Combination	-0.6368	-0.3987	-8.46		
1.50	346	465 Shell-Thick	INVSLE Combination	-1.2184	-0.3232	-27.30		
1.62	346	465 Shell-Thick	INVSLE Combination	0.5198	0.1026	-27.30		
1.62	346	465 Shell-Thick	INVSLE Combination	0.3667	-0.2380	-27.17		
1.50	346	465 Shell-Thick	INVSLE Combination	-1.3536	-0.5129	-27.17		
1.66	347	466 Shell-Thick	INVSLE Combination	-0.4238	-0.0594	-6.26		
1.85	347	466 Shell-Thick	INVSLE Combination	0.8224	0.0595	-6.26		
1.85	347	466 Shell-Thick	INVSLE Combination	0.7248	-0.1406	-6.06		
1.66	347	466 Shell-Thick	INVSLE Combination	-0.5113	-0.2851	-6.06		
1.54	347	466 Shell-Thick	INVSLE Combination	-0.7172	-0.1588	-13.13		
1.71	347	466 Shell-Thick	INVSLE Combination	0.3100	0.0194	-13.13		
1.71	347	466 Shell-Thick	INVSLE Combination	0.2065	-0.1930	-12.96		
1.54	347	466 Shell-Thick	INVSLE Combination	-0.8073	-0.3650	-12.96		
2.24	347	466 Shell-Thick	INVSLE Combination	-0.5722	-0.0802	-8.46		
2.49	347	466 Shell-Thick	INVSLE Combination	1.8710	0.1414	-8.46		
2.49	347	466 Shell-Thick	INVSLE Combination	1.7857	-0.0335	-8.19		
2.24	347	466 Shell-Thick	INVSLE Combination	-0.6902	-0.3849	-8.19		
1.31	347	466 Shell-Thick	INVSLE Combination	-1.3176	-0.3621	-27.18		
1.42	347	466 Shell-Thick	INVSLE Combination	0.4186	0.0262	-27.18		
1.42	347	466 Shell-Thick	INVSLE Combination	0.2788	-0.2605	-27.06		
1.31	347	466 Shell-Thick	INVSLE Combination	-1.4131	-0.5284	-27.06		
1.27	348	467 Shell-Thick	INVSLE Combination	-0.4684	-0.0674	-6.06		
1.41	348	467 Shell-Thick	INVSLE Combination	0.7562	0.0192	-6.06		
1.41	348	467 Shell-Thick	INVSLE Combination	0.6335	-0.1361	-5.91		
1.27	348	467 Shell-Thick	INVSLE Combination	-0.5599	-0.2405	-5.91		
1.19	348	467 Shell-Thick	INVSLE Combination	-0.7640	-0.1514	-12.96		
1.31	348	467 Shell-Thick	INVSLE Combination	0.2434	-0.0122	-12.96		
1.31	348	467 Shell-Thick	INVSLE Combination	0.1387	-0.1744	-12.83		
1.19	348	467 Shell-Thick	INVSLE Combination	-0.8826	-0.3100	-12.83		
1.72	348	467 Shell-Thick	INVSLE Combination	-0.6324	-0.0910	-8.18		
1.90	348	467 Shell-Thick	INVSLE Combination	1.8059	0.0833	-8.18		
1.90	348	467 Shell-Thick	INVSLE Combination	1.6464	-0.0578	-7.99		
1.72	348	467 Shell-Thick	INVSLE Combination	-0.7558	-0.3246	-7.99		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 103 di 416
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1.04	348	467 Shell-Thick	INVSLU Combination	-1.3690	-0.3235	-27.07		
1.12	348	467 Shell-Thick	INVSLU Combination	0.3286	-0.0165	-27.07		
1.12	348	467 Shell-Thick	INVSLU Combination	0.1873	-0.2354	-26.98		
1.04	348	467 Shell-Thick	INVSLU Combination	-1.5433	-0.4523	-26.98		
2.76	350	468 Shell-Thick	INVSLE Combination	1.2632	0.6860	-6.65		
3.00	350	468 Shell-Thick	INVSLE Combination	2.7013	1.0503	-6.65		
3.00	350	468 Shell-Thick	INVSLE Combination	2.5769	0.7487	-6.39		
2.76	350	468 Shell-Thick	INVSLE Combination	1.1430	0.3810	-6.39		
2.34	350	468 Shell-Thick	INVSLE Combination	0.7039	0.4985	-12.29		
2.51	350	468 Shell-Thick	INVSLE Combination	1.4795	0.6944	-12.29		
2.51	350	468 Shell-Thick	INVSLE Combination	1.3263	0.3404	-12.10		
2.34	350	468 Shell-Thick	INVSLE Combination	0.5662	0.1317	-12.10		
3.72	350	468 Shell-Thick	INVSLU Combination	2.4079	1.0698	-8.98		
4.06	350	468 Shell-Thick	INVSLU Combination	5.2023	1.7787	-8.98		
4.06	350	468 Shell-Thick	INVSLU Combination	5.1368	1.5845	-8.63		
3.72	350	468 Shell-Thick	INVSLU Combination	2.3235	0.8914	-8.63		
1.47	350	468 Shell-Thick	INVSLU Combination	0.9503	0.6730	-23.83		
1.51	350	468 Shell-Thick	INVSLU Combination	1.9973	0.9374	-23.83		
1.51	350	468 Shell-Thick	INVSLU Combination	1.7905	0.4595	-23.79		
1.47	350	468 Shell-Thick	INVSLU Combination	0.7644	0.1778	-23.79		
2.72	351	469 Shell-Thick	INVSLE Combination	1.1779	0.5332	-6.39		
2.96	351	469 Shell-Thick	INVSLE Combination	2.5940	0.8568	-6.39		
2.96	351	469 Shell-Thick	INVSLE Combination	2.4584	0.5509	-6.13		
2.72	351	469 Shell-Thick	INVSLE Combination	1.0471	0.2234	-6.13		
2.37	351	469 Shell-Thick	INVSLE Combination	0.6186	0.3789	-12.10		
2.55	351	469 Shell-Thick	INVSLE Combination	1.3640	0.5436	-12.10		
2.55	351	469 Shell-Thick	INVSLE Combination	1.2078	0.1947	-11.91		
2.37	351	469 Shell-Thick	INVSLE Combination	0.4781	0.0170	-11.91		
3.67	351	469 Shell-Thick	INVSLU Combination	2.3227	0.8489	-8.63		
4.00	351	469 Shell-Thick	INVSLU Combination	5.1117	1.4979	-8.63		
4.00	351	469 Shell-Thick	INVSLU Combination	5.0185	1.2800	-8.28		
3.67	351	469 Shell-Thick	INVSLU Combination	2.2118	0.6457	-8.28		
1.65	351	469 Shell-Thick	INVSLU Combination	0.8351	0.5116	-23.80		
1.72	351	469 Shell-Thick	INVSLU Combination	1.8414	0.7339	-23.80		
1.72	351	469 Shell-Thick	INVSLU Combination	1.6305	0.2629	-23.72		
1.65	351	469 Shell-Thick	INVSLU Combination	0.6455	0.0230	-23.72		
2.61	352	470 Shell-Thick	INVSLE Combination	1.0846	0.3859	-6.14		
2.84	352	470 Shell-Thick	INVSLE Combination	2.4788	0.6777	-6.14		
2.84	352	470 Shell-Thick	INVSLE Combination	2.3526	0.3783	-5.89		

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 104 di 416
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2.61	352	470 Shell-Thick	INVSLE Combination	0.9648	0.0813		-5.89	
2.32	352	470 Shell-Thick	INVSLE Combination	0.5310	0.2674		-11.91	
2.51	352	470 Shell-Thick	INVSLE Combination	1.2470	0.4049		-11.91	
2.51	352	470 Shell-Thick	INVSLE Combination	1.0956	0.0704		-11.71	
2.32	352	470 Shell-Thick	INVSLE Combination	0.3957	-0.0803		-11.71	
3.52	352	470 Shell-Thick	INVSLE Combination	2.2179	0.6283		-8.28	
3.84	352	470 Shell-Thick	INVSLE Combination	5.0002	1.2363		-8.28	
3.84	352	470 Shell-Thick	INVSLE Combination	4.9255	1.0087		-7.95	
3.52	352	470 Shell-Thick	INVSLE Combination	2.1298	0.4120		-7.95	
1.73	352	470 Shell-Thick	INVSLE Combination	0.7169	0.3610		-23.73	
1.82	352	470 Shell-Thick	INVSLE Combination	1.6834	0.5466		-23.73	
1.82	352	470 Shell-Thick	INVSLE Combination	1.4791	0.0950		-23.64	
1.73	352	470 Shell-Thick	INVSLE Combination	0.5341	-0.1084		-23.64	
2.43	353	471 Shell-Thick	INVSLE Combination	1.0039	0.2584		-5.89	
2.64	353	471 Shell-Thick	INVSLE Combination	2.3757	0.5122		-5.89	
2.64	353	471 Shell-Thick	INVSLE Combination	2.2394	0.2286		-5.66	
2.43	353	471 Shell-Thick	INVSLE Combination	0.8733	-0.0298		-5.66	
2.20	353	471 Shell-Thick	INVSLE Combination	0.4477	0.1701		-11.72	
2.37	353	471 Shell-Thick	INVSLE Combination	1.1356	0.2801		-11.72	
2.37	353	471 Shell-Thick	INVSLE Combination	0.9852	-0.0310		-11.53	
2.20	353	471 Shell-Thick	INVSLE Combination	0.3125	-0.1535		-11.53	
3.28	353	471 Shell-Thick	INVSLE Combination	2.1424	0.4392		-7.95	
3.57	353	471 Shell-Thick	INVSLE Combination	4.9140	0.9874		-7.95	
3.57	353	471 Shell-Thick	INVSLE Combination	4.8067	0.7599		-7.65	
3.28	353	471 Shell-Thick	INVSLE Combination	2.0212	0.2234		-7.65	
1.73	353	471 Shell-Thick	INVSLE Combination	0.6044	0.2296		-23.64	
1.82	353	471 Shell-Thick	INVSLE Combination	1.5331	0.3781		-23.64	
1.82	353	471 Shell-Thick	INVSLE Combination	1.3300	-0.0418		-23.55	
1.73	353	471 Shell-Thick	INVSLE Combination	0.4219	-0.2072		-23.55	
2.17	354	472 Shell-Thick	INVSLE Combination	0.9124	0.1505		-5.66	
2.36	354	472 Shell-Thick	INVSLE Combination	2.2641	0.3674		-5.66	
2.36	354	472 Shell-Thick	INVSLE Combination	2.1458	0.1112		-5.47	
2.17	354	472 Shell-Thick	INVSLE Combination	0.8002	-0.1106		-5.47	
1.99	354	472 Shell-Thick	INVSLE Combination	0.3622	0.0888		-11.54	
2.15	354	472 Shell-Thick	INVSLE Combination	1.0249	0.1735		-11.54	
2.15	354	472 Shell-Thick	INVSLE Combination	0.8858	-0.1038		-11.37	
1.99	354	472 Shell-Thick	INVSLE Combination	0.2376	-0.2005		-11.37	
2.93	354	472 Shell-Thick	INVSLE Combination	2.0387	0.2769		-7.65	
3.18	354	472 Shell-Thick	INVSLE Combination	4.8008	0.7642		-7.65	

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3.18	354	472 Shell-Thick	INVSLU Combination	4.7252	0.5513	-7.38		
2.93	354	472 Shell-Thick	INVSLU Combination	1.9520	0.0733	-7.38		
1.62	354	472 Shell-Thick	INVSLU Combination	0.4890	0.1199	-23.55		
1.71	354	472 Shell-Thick	INVSLU Combination	1.3836	0.2342	-23.55		
1.71	354	472 Shell-Thick	INVSLU Combination	1.1958	-0.1402	-23.45		
1.62	354	472 Shell-Thick	INVSLU Combination	0.3207	-0.2707	-23.45		
1.83	355	473 Shell-Thick	INVSLE Combination	0.8383	0.0710	-5.47		
1.98	355	473 Shell-Thick	INVSLE Combination	2.1714	0.2478	-5.47		
1.98	355	473 Shell-Thick	INVSLE Combination	2.0447	0.0292	-5.31		
1.83	355	473 Shell-Thick	INVSLE Combination	0.7156	-0.1509	-5.31		
1.70	355	473 Shell-Thick	INVSLE Combination	0.2835	0.0281	-11.37		
1.82	355	473 Shell-Thick	INVSLE Combination	0.9241	0.0890	-11.37		
1.82	355	473 Shell-Thick	INVSLE Combination	0.7907	-0.1443	-11.24		
1.70	355	473 Shell-Thick	INVSLE Combination	0.1628	-0.2157	-11.24		
2.47	355	473 Shell-Thick	INVSLE Combination	1.9739	0.1590	-7.38		
2.68	355	473 Shell-Thick	INVSLE Combination	4.7247	0.5729	-7.38		
2.68	355	473 Shell-Thick	INVSLE Combination	4.6116	0.3843	-7.16		
2.47	355	473 Shell-Thick	INVSLE Combination	1.8471	-0.0182	-7.16		
1.42	355	473 Shell-Thick	INVSLE Combination	0.3828	0.0379	-23.46		
1.50	355	473 Shell-Thick	INVSLE Combination	1.2475	0.1201	-23.46		
1.50	355	473 Shell-Thick	INVSLE Combination	1.0674	-0.1948	-23.38		
1.42	355	473 Shell-Thick	INVSLE Combination	0.2198	-0.2912	-23.38		
1.40	356	474 Shell-Thick	INVSLE Combination	0.7507	0.0285	-5.30		
1.51	356	474 Shell-Thick	INVSLE Combination	2.0691	0.1474	-5.30		
1.51	356	474 Shell-Thick	INVSLE Combination	1.9727	-0.0205	-5.19		
1.40	356	474 Shell-Thick	INVSLE Combination	0.6572	-0.1418	-5.19		
1.30	356	474 Shell-Thick	INVSLE Combination	0.2032	-0.0080	-11.24		
1.40	356	474 Shell-Thick	INVSLE Combination	0.8262	0.0278	-11.24		
1.40	356	474 Shell-Thick	INVSLE Combination	0.7132	-0.1494	-11.13		
1.30	356	474 Shell-Thick	INVSLE Combination	0.1011	-0.1942	-11.13		
1.89	356	474 Shell-Thick	INVSLE Combination	1.8712	0.1030	-7.16		
2.04	356	474 Shell-Thick	INVSLE Combination	4.6133	0.3922	-7.16		
2.04	356	474 Shell-Thick	INVSLE Combination	4.5510	0.2434	-7.00		
1.89	356	474 Shell-Thick	INVSLE Combination	1.7955	-0.0346	-7.00		
1.11	356	474 Shell-Thick	INVSLE Combination	0.2743	-0.0107	-23.38		
1.18	356	474 Shell-Thick	INVSLE Combination	1.1154	0.0376	-23.38		
1.18	356	474 Shell-Thick	INVSLE Combination	0.9628	-0.2016	-23.31		
1.11	356	474 Shell-Thick	INVSLE Combination	0.1364	-0.2621	-23.31		
2.99	358	475 Shell-Thick	INVSLE Combination	2.7019	1.0598	-5.58		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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3.18	358	475 Shell-Thick	INVSLE	Combination	3.9077	1.3702	-5.58	
3.18	358	475 Shell-Thick	INVSLE	Combination	3.7686	1.0494	-5.37	
2.99	358	475 Shell-Thick	INVSLE	Combination	2.5653	0.7370	-5.37	
2.50	358	475 Shell-Thick	INVSLE	Combination	1.4720	0.7101	-10.30	
2.64	358	475 Shell-Thick	INVSLE	Combination	2.1230	0.8785	-10.30	
2.64	358	475 Shell-Thick	INVSLE	Combination	1.9452	0.4978	-10.16	
2.50	358	475 Shell-Thick	INVSLE	Combination	1.3065	0.3193	-10.16	
4.03	358	475 Shell-Thick	INVSLE	Combination	5.2194	1.7756	-7.53	
4.29	358	475 Shell-Thick	INVSLE	Combination	7.5608	2.3768	-7.53	
4.29	358	475 Shell-Thick	INVSLE	Combination	7.5011	2.1786	-7.25	
4.03	358	475 Shell-Thick	INVSLE	Combination	5.1421	1.5922	-7.25	
1.52	358	475 Shell-Thick	INVSLE	Combination	1.9872	0.9586	-19.97	
1.53	358	475 Shell-Thick	INVSLE	Combination	2.8660	1.1860	-19.97	
1.53	358	475 Shell-Thick	INVSLE	Combination	2.6260	0.6721	-19.95	
1.52	358	475 Shell-Thick	INVSLE	Combination	1.7637	0.4310	-19.95	
2.95	359	476 Shell-Thick	INVSLE	Combination	2.5953	0.8685	-5.37	
2.95	359	476 Shell-Thick	INVSLE	Combination	3.7847	1.1481	-5.37	
3.14	359	476 Shell-Thick	INVSLE	Combination	3.6450	0.8226	-5.17	
3.14	359	476 Shell-Thick	INVSLE	Combination	2.4596	0.5397	-5.17	
2.95	359	476 Shell-Thick	INVSLE	Combination	1.3566	0.5596	-10.16	
2.54	359	476 Shell-Thick	INVSLE	Combination	1.9838	0.7016	-10.16	
2.69	359	476 Shell-Thick	INVSLE	Combination	1.8052	0.3264	-10.01	
2.69	359	476 Shell-Thick	INVSLE	Combination	1.1908	0.1739	-10.01	
2.54	359	476 Shell-Thick	INVSLE	Combination	5.1307	1.5007	-7.26	
3.98	359	476 Shell-Thick	INVSLE	Combination	7.4710	2.0621	-7.26	
4.24	359	476 Shell-Thick	INVSLE	Combination	7.4112	1.8383	-6.98	
4.24	359	476 Shell-Thick	INVSLE	Combination	5.0568	1.2887	-6.98	
3.98	359	476 Shell-Thick	INVSLE	Combination	1.8315	0.7555	-19.96	
1.72	359	476 Shell-Thick	INVSLE	Combination	2.6782	0.9471	-19.96	
1.76	359	476 Shell-Thick	INVSLE	Combination	2.4370	0.4407	-19.91	
1.76	359	476 Shell-Thick	INVSLE	Combination	1.6075	0.2347	-19.91	
1.72	360	477 Shell-Thick	INVSLE	Combination	2.4927	0.6902	-5.17	
2.83	360	477 Shell-Thick	INVSLE	Combination	3.6645	0.9347	-5.17	
3.01	360	477 Shell-Thick	INVSLE	Combination	3.5141	0.6150	-4.97	
3.01	360	477 Shell-Thick	INVSLE	Combination	2.3462	0.3674	-4.97	
2.83	360	477 Shell-Thick	INVSLE	Combination	1.2417	0.4201	-10.01	
2.50	360	477 Shell-Thick	INVSLE	Combination	1.8453	0.5356	-10.01	
2.64	360	477 Shell-Thick	INVSLE	Combination	1.6657	0.1757	-9.86	
2.64	360	477 Shell-Thick	INVSLE	Combination	1.0747	0.0499	-9.86	
2.50	360	477 Shell-Thick	INVSLE	Combination				

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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3.82	360	477 Shell-Thick	INVSLU Combination	5.0534	1.2431	-6.98		
4.06	360	477 Shell-Thick	INVSLU Combination	7.3882	1.7517	-6.98		
4.06	360	477 Shell-Thick	INVSLU Combination	7.2976	1.5143	-6.72		
3.82	360	477 Shell-Thick	INVSLU Combination	4.9490	1.0172	-6.72		
1.82	360	477 Shell-Thick	INVSLU Combination	1.6763	0.5672	-19.92		
1.88	360	477 Shell-Thick	INVSLU Combination	2.4912	0.7230	-19.92		
1.88	360	477 Shell-Thick	INVSLU Combination	2.2487	0.2372	-19.85		
1.82	360	477 Shell-Thick	INVSLU Combination	1.4508	0.0674	-19.85		
2.63	361	478 Shell-Thick	INVSLE Combination	2.3805	0.5245	-4.98		
2.80	361	478 Shell-Thick	INVSLE Combination	3.5355	0.7365	-4.98		
2.80	361	478 Shell-Thick	INVSLE Combination	3.3977	0.4345	-4.80		
2.63	361	478 Shell-Thick	INVSLE Combination	2.2473	0.2188	-4.80		
2.36	361	478 Shell-Thick	INVSLE Combination	1.1248	0.2937	-9.86		
2.50	361	478 Shell-Thick	INVSLE Combination	1.7062	0.3849	-9.86		
2.50	361	478 Shell-Thick	INVSLE Combination	1.5355	0.0507	-9.72		
2.36	361	478 Shell-Thick	INVSLE Combination	0.9663	-0.0506	-9.72		
3.55	361	478 Shell-Thick	INVSLU Combination	4.9510	0.9970	-6.72		
3.77	361	478 Shell-Thick	INVSLU Combination	7.2800	1.4563	-6.72		
3.77	361	478 Shell-Thick	INVSLU Combination	7.2094	1.2201	-6.47		
3.55	361	478 Shell-Thick	INVSLU Combination	4.8693	0.7702	-6.47		
1.82	361	478 Shell-Thick	INVSLU Combination	1.5184	0.3965	-19.86		
1.88	361	478 Shell-Thick	INVSLU Combination	2.3034	0.5196	-19.86		
1.88	361	478 Shell-Thick	INVSLU Combination	2.0729	0.0685	-19.79		
1.82	361	478 Shell-Thick	INVSLU Combination	1.3046	-0.0683	-19.79		
2.34	362	479 Shell-Thick	INVSLE Combination	2.2813	0.3790	-4.80		
2.49	362	479 Shell-Thick	INVSLE Combination	3.4200	0.5561	-4.80		
2.49	362	479 Shell-Thick	INVSLE Combination	3.2794	0.2827	-4.64		
2.34	362	479 Shell-Thick	INVSLE Combination	2.1442	0.1027	-4.64		
2.14	362	479 Shell-Thick	INVSLE Combination	1.0141	0.1849	-9.72		
2.26	362	479 Shell-Thick	INVSLE Combination	1.5753	0.2529	-9.72		
2.26	362	479 Shell-Thick	INVSLE Combination	1.4118	-0.0449	-9.59		
2.14	362	479 Shell-Thick	INVSLE Combination	0.8619	-0.1222	-9.59		
3.16	362	479 Shell-Thick	INVSLU Combination	4.8753	0.7762	-6.47		
3.36	362	479 Shell-Thick	INVSLU Combination	7.1960	1.1768	-6.47		
3.36	362	479 Shell-Thick	INVSLU Combination	7.1023	0.9532	-6.26		
3.16	362	479 Shell-Thick	INVSLU Combination	4.7692	0.5630	-6.26		
1.71	362	479 Shell-Thick	INVSLU Combination	1.3690	0.2496	-19.79		
1.78	362	479 Shell-Thick	INVSLU Combination	2.1266	0.3414	-19.79		
1.78	362	479 Shell-Thick	INVSLU Combination	1.9059	-0.0606	-19.73		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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1.71	362	479 Shell-Thick	INVSLE Combination	1.1635	-0.1649	-19.73		
1.97	363	480 Shell-Thick	INVSLE Combination	2.1761	0.2583	-4.64		
2.09	363	480 Shell-Thick	INVSLE Combination	3.3008	0.3934	-4.64		
2.09	363	480 Shell-Thick	INVSLE Combination	3.1865	0.1613	-4.51		
1.97	363	480 Shell-Thick	INVSLE Combination	2.0649	0.0237	-4.51		
1.82	363	480 Shell-Thick	INVSLE Combination	0.9057	0.0977	-9.59		
1.92	363	480 Shell-Thick	INVSLE Combination	1.4495	0.1430	-9.59		
1.92	363	480 Shell-Thick	INVSLE Combination	1.3050	-0.1068	-9.48		
1.82	363	480 Shell-Thick	INVSLE Combination	0.7714	-0.1605	-9.48		
2.66	363	480 Shell-Thick	INVSLE Combination	4.7766	0.5870	-6.26		
2.82	363	480 Shell-Thick	INVSLE Combination	7.0903	0.9060	-6.26		
2.82	363	480 Shell-Thick	INVSLE Combination	7.0378	0.7101	-6.09		
2.66	363	480 Shell-Thick	INVSLE Combination	4.7125	0.4008	-6.09		
1.50	363	480 Shell-Thick	INVSLE Combination	1.2226	0.1318	-19.73		
1.56	363	480 Shell-Thick	INVSLE Combination	1.9568	0.1930	-19.73		
1.56	363	480 Shell-Thick	INVSLE Combination	1.7618	-0.1441	-19.67		
1.50	363	480 Shell-Thick	INVSLE Combination	1.0414	-0.2167	-19.67		
1.50	364	481 Shell-Thick	INVSLE Combination	2.0921	0.1575	-4.51		
1.59	364	481 Shell-Thick	INVSLE Combination	3.2049	0.2556	-4.51		
1.59	364	481 Shell-Thick	INVSLE Combination	3.1047	0.0770	-4.42		
1.50	364	481 Shell-Thick	INVSLE Combination	1.9929	-0.0219	-4.42		
1.39	364	481 Shell-Thick	INVSLE Combination	0.8096	0.0337	-9.48		
1.47	364	481 Shell-Thick	INVSLE Combination	1.3394	0.0615	-9.48		
1.47	364	481 Shell-Thick	INVSLE Combination	1.2132	-0.1280	-9.41		
1.39	364	481 Shell-Thick	INVSLE Combination	0.6919	-0.1628	-9.41		
2.02	364	481 Shell-Thick	INVSLE Combination	4.7174	0.4108	-6.09		
2.14	364	481 Shell-Thick	INVSLE Combination	7.0235	0.6531	-6.09		
2.14	364	481 Shell-Thick	INVSLE Combination	6.9766	0.4967	-5.96		
2.02	364	481 Shell-Thick	INVSLE Combination	4.6559	0.2666	-5.96		
1.18	364	481 Shell-Thick	INVSLE Combination	1.0929	0.0455	-19.67		
1.22	364	481 Shell-Thick	INVSLE Combination	1.8081	0.0830	-19.67		
1.22	364	481 Shell-Thick	INVSLE Combination	1.6378	-0.1729	-19.62		
1.18	364	481 Shell-Thick	INVSLE Combination	0.9341	-0.2198	-19.62		
3.17	366	482 Shell-Thick	INVSLE Combination	3.8909	1.3753	-4.51		
3.32	366	482 Shell-Thick	INVSLE Combination	4.8663	1.6336	-4.51		
3.32	366	482 Shell-Thick	INVSLE Combination	4.7312	1.2990	-4.35		
3.17	366	482 Shell-Thick	INVSLE Combination	3.7579	1.0389	-4.35		
2.63	366	482 Shell-Thick	INVSLE Combination	2.1078	0.8896	-8.33		
2.73	366	482 Shell-Thick	INVSLE Combination	2.6348	1.0297	-8.33		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 109 di 416
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2.73	366	482 Shell-Thick	INVSLE Combination	2.4442	0.6282	-8.22		
2.63	366	482 Shell-Thick	INVSLE Combination	1.9269	0.4801	-8.22		
4.28	366	482 Shell-Thick	INVSLE Combination	7.5409	2.3696	-6.09		
4.48	366	482 Shell-Thick	INVSLE Combination	9.4340	2.8700	-6.09		
4.48	366	482 Shell-Thick	INVSLE Combination	9.4126	2.6720	-5.88		
4.28	366	482 Shell-Thick	INVSLE Combination	7.5060	2.1828	-5.88		
1.54	366	482 Shell-Thick	INVSLE Combination	2.8456	1.2009	-16.13		
1.54	366	482 Shell-Thick	INVSLE Combination	3.5570	1.3901	-16.13		
1.54	366	482 Shell-Thick	INVSLE Combination	3.2996	0.8481	-16.13		
1.54	366	482 Shell-Thick	INVSLE Combination	2.6013	0.6481	-16.13		
3.12	367	483 Shell-Thick	INVSLE Combination	3.7833	1.1555	-4.36		
3.27	367	483 Shell-Thick	INVSLE Combination	4.7460	1.3833	-4.36		
3.27	367	483 Shell-Thick	INVSLE Combination	4.5936	1.0424	-4.20		
3.12	367	483 Shell-Thick	INVSLE Combination	3.6333	0.8126	-4.20		
2.68	367	483 Shell-Thick	INVSLE Combination	1.9748	0.7134	-8.22		
2.79	367	483 Shell-Thick	INVSLE Combination	2.4832	0.8297	-8.22		
2.79	367	483 Shell-Thick	INVSLE Combination	2.2861	0.4336	-8.11		
2.68	367	483 Shell-Thick	INVSLE Combination	1.7874	0.3093	-8.11		
4.22	367	483 Shell-Thick	INVSLE Combination	7.4853	2.0603	-5.88		
4.42	367	483 Shell-Thick	INVSLE Combination	9.3777	2.5165	-5.88		
4.42	367	483 Shell-Thick	INVSLE Combination	9.3170	2.2884	-5.67		
4.22	367	483 Shell-Thick	INVSLE Combination	7.4118	1.8430	-5.67		
1.77	367	483 Shell-Thick	INVSLE Combination	2.6660	0.9631	-16.14		
1.79	367	483 Shell-Thick	INVSLE Combination	3.3524	1.1201	-16.14		
1.79	367	483 Shell-Thick	INVSLE Combination	3.0862	0.5854	-16.11		
1.77	367	483 Shell-Thick	INVSLE Combination	2.4130	0.4175	-16.11		
3.00	368	484 Shell-Thick	INVSLE Combination	3.6617	0.9434	-4.20		
3.14	368	484 Shell-Thick	INVSLE Combination	4.6115	1.1434	-4.20		
3.14	368	484 Shell-Thick	INVSLE Combination	4.4628	0.8088	-4.05		
3.00	368	484 Shell-Thick	INVSLE Combination	3.5162	0.6062	-4.05		
2.63	368	484 Shell-Thick	INVSLE Combination	1.8362	0.5473	-8.11		
2.74	368	484 Shell-Thick	INVSLE Combination	2.3265	0.6416	-8.11		
2.74	368	484 Shell-Thick	INVSLE Combination	2.1328	0.2619	-7.99		
2.63	368	484 Shell-Thick	INVSLE Combination	1.6523	0.1595	-7.99		
4.05	368	484 Shell-Thick	INVSLE Combination	7.3986	1.7541	-5.67		
4.24	368	484 Shell-Thick	INVSLE Combination	9.2889	2.1705	-5.67		
4.24	368	484 Shell-Thick	INVSLE Combination	9.2321	1.9283	-5.46		
4.05	368	484 Shell-Thick	INVSLE Combination	7.3314	1.5207	-5.46		
1.88	368	484 Shell-Thick	INVSLE Combination	2.4788	0.7389	-16.12		

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 110 di 416
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1.92	368	484 Shell-Thick	INVSLE Combination	3.1408	0.8661	-16.12		
1.92	368	484 Shell-Thick	INVSLE Combination	2.8793	0.3535	-16.08		
1.88	368	484 Shell-Thick	INVSLE Combination	2.2306	0.2153	-16.08		
2.78	369	485 Shell-Thick	INVSLE Combination	3.5459	0.7458	-4.05		
2.91	369	485 Shell-Thick	INVSLE Combination	4.4824	0.9160	-4.05		
2.91	369	485 Shell-Thick	INVSLE Combination	4.3292	0.5993	-3.91		
2.78	369	485 Shell-Thick	INVSLE Combination	3.3954	0.4269	-3.91		
2.49	369	485 Shell-Thick	INVSLE Combination	1.7003	0.3959	-8.00		
2.59	369	485 Shell-Thick	INVSLE Combination	2.1734	0.4688	-8.00		
2.59	369	485 Shell-Thick	INVSLE Combination	1.9843	0.1163	-7.89		
2.49	369	485 Shell-Thick	INVSLE Combination	1.5206	0.0356	-7.89		
3.76	369	485 Shell-Thick	INVSLE Combination	7.3235	1.4621	-5.46		
3.93	369	485 Shell-Thick	INVSLE Combination	9.2089	1.8315	-5.46		
3.93	369	485 Shell-Thick	INVSLE Combination	9.1292	1.5880	-5.28		
3.76	369	485 Shell-Thick	INVSLE Combination	7.2329	1.2278	-5.28		
1.89	369	485 Shell-Thick	INVSLE Combination	2.2955	0.5344	-16.08		
1.93	369	485 Shell-Thick	INVSLE Combination	2.9341	0.6329	-16.08		
1.93	369	485 Shell-Thick	INVSLE Combination	2.6788	0.1570	-16.03		
1.89	369	485 Shell-Thick	INVSLE Combination	2.0528	0.0481	-16.03		
2.48	370	486 Shell-Thick	INVSLE Combination	3.4243	0.5654	-3.91		
2.59	370	486 Shell-Thick	INVSLE Combination	4.3489	0.7036	-3.91		
2.59	370	486 Shell-Thick	INVSLE Combination	4.2155	0.4176	-3.79		
2.48	370	486 Shell-Thick	INVSLE Combination	3.2937	0.2772	-3.79		
2.25	370	486 Shell-Thick	INVSLE Combination	1.5663	0.2626	-7.89		
2.34	370	486 Shell-Thick	INVSLE Combination	2.0238	0.3153	-7.89		
2.34	370	486 Shell-Thick	INVSLE Combination	1.8502	0.0016	-7.79		
2.25	370	486 Shell-Thick	INVSLE Combination	1.4015	-0.0584	-7.79		
3.35	370	486 Shell-Thick	INVSLE Combination	7.2275	1.1852	-5.28		
3.50	370	486 Shell-Thick	INVSLE Combination	9.1082	1.4985	-5.28		
3.50	370	486 Shell-Thick	INVSLE Combination	9.0571	1.2692	-5.11		
3.35	370	486 Shell-Thick	INVSLE Combination	7.1668	0.9640	-5.11		
1.78	370	486 Shell-Thick	INVSLE Combination	2.1145	0.3545	-16.04		
1.82	370	486 Shell-Thick	INVSLE Combination	2.7321	0.4256	-16.04		
1.82	370	486 Shell-Thick	INVSLE Combination	2.4977	0.0022	-15.99		
1.78	370	486 Shell-Thick	INVSLE Combination	1.8920	-0.0788	-15.99		
2.08	371	487 Shell-Thick	INVSLE Combination	3.3196	0.4027	-3.79		
2.17	371	487 Shell-Thick	INVSLE Combination	4.2332	0.5107	-3.79		
2.17	371	487 Shell-Thick	INVSLE Combination	4.1119	0.2677	-3.69		
2.08	371	487 Shell-Thick	INVSLE Combination	3.1998	0.1585	-3.69		

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 111 di 416
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1.91	371	487 Shell-Thick	INVSLE Combination	1.4432	0.1510	-7.79		
1.99	371	487 Shell-Thick	INVSLE Combination	1.8873	0.1863	-7.79		
1.99	371	487 Shell-Thick	INVSLE Combination	1.7302	-0.0765	-7.71		
1.91	371	487 Shell-Thick	INVSLE Combination	1.2940	-0.1183	-7.71		
2.81	371	487 Shell-Thick	INVSLE Combination	7.1605	0.9178	-5.11		
2.93	371	487 Shell-Thick	INVSLE Combination	9.0352	1.1747	-5.11		
2.93	371	487 Shell-Thick	INVSLE Combination	8.9872	0.9722	-4.98		
2.81	371	487 Shell-Thick	INVSLE Combination	7.1010	0.7250	-4.98		
1.56	371	487 Shell-Thick	INVSLE Combination	1.9484	0.2039	-15.99		
1.60	371	487 Shell-Thick	INVSLE Combination	2.5478	0.2516	-15.99		
1.60	371	487 Shell-Thick	INVSLE Combination	2.3358	-0.1033	-15.95		
1.56	371	487 Shell-Thick	INVSLE Combination	1.7468	-0.1597	-15.95		
1.58	372	488 Shell-Thick	INVSLE Combination	3.2206	0.2646	-3.69		
1.65	372	488 Shell-Thick	INVSLE Combination	4.1254	0.3333	-3.69		
1.65	372	488 Shell-Thick	INVSLE Combination	4.0428	0.1470	-3.61		
1.58	372	488 Shell-Thick	INVSLE Combination	3.1385	0.0780	-3.61		
1.46	372	488 Shell-Thick	INVSLE Combination	1.3303	0.0676	-7.71		
1.52	372	488 Shell-Thick	INVSLE Combination	1.7635	0.0859	-7.71		
1.52	372	488 Shell-Thick	INVSLE Combination	1.6342	-0.1132	-7.65		
1.46	372	488 Shell-Thick	INVSLE Combination	1.2076	-0.1370	-7.65		
2.13	372	488 Shell-Thick	INVSLE Combination	7.0901	0.6679	-4.98		
2.22	372	488 Shell-Thick	INVSLE Combination	8.9601	0.8396	-4.98		
2.22	372	488 Shell-Thick	INVSLE Combination	8.9730	0.6796	-4.88		
2.13	372	488 Shell-Thick	INVSLE Combination	7.0910	0.5180	-4.88		
1.22	372	488 Shell-Thick	INVSLE Combination	1.7958	0.0912	-15.95		
1.26	372	488 Shell-Thick	INVSLE Combination	2.3808	0.1159	-15.95		
1.26	372	488 Shell-Thick	INVSLE Combination	2.2062	-0.1528	-15.91		
1.22	372	488 Shell-Thick	INVSLE Combination	1.6303	-0.1850	-15.91		
3.31	374	489 Shell-Thick	INVSLE Combination	4.8496	1.6358	-3.45		
3.42	374	489 Shell-Thick	INVSLE Combination	5.5952	1.8351	-3.45		
3.42	374	489 Shell-Thick	INVSLE Combination	5.4560	1.4899	-3.33		
3.42	374	489 Shell-Thick	INVSLE Combination	4.7116	1.2896	-3.33		
3.31	374	489 Shell-Thick	INVSLE Combination	2.6192	1.0372	-6.37		
2.73	374	489 Shell-Thick	INVSLE Combination	3.0224	1.1459	-6.37		
2.80	374	489 Shell-Thick	INVSLE Combination	2.8213	0.7285	-6.29		
2.80	374	489 Shell-Thick	INVSLE Combination	2.4253	0.6138	-6.29		
2.73	374	489 Shell-Thick	INVSLE Combination	9.4150	2.8611	-4.66		
4.46	374	489 Shell-Thick	INVSLE Combination	10.8617	3.2460	-4.66		
4.61	374	489 Shell-Thick	INVSLE Combination	10.8491	3.0487	-4.50		
4.61	374	489 Shell-Thick	INVSLE Combination					

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 113 di 416
3.00	377	492 Shell-Thick	INVSLE	Combination	5.0516	0.7246	-3.01	
2.90	377	492 Shell-Thick	INVSLE	Combination	4.3358	0.5937	-3.01	
2.58	377	492 Shell-Thick	INVSLE	Combination	2.1665	0.4772	-6.13	
2.66	377	492 Shell-Thick	INVSLE	Combination	2.5301	0.5326	-6.13	
2.66	377	492 Shell-Thick	INVSLE	Combination	2.3335	0.1662	-6.05	
2.58	377	492 Shell-Thick	INVSLE	Combination	1.9770	0.1050	-6.05	
3.92	377	492 Shell-Thick	INVSLE	Combination	9.2183	1.8343	-4.20	
4.05	377	492 Shell-Thick	INVSLE	Combination	10.6618	2.1145	-4.20	
4.05	377	492 Shell-Thick	INVSLE	Combination	10.6154	1.8678	-4.06	
3.92	377	492 Shell-Thick	INVSLE	Combination	9.1641	1.5941	-4.06	
1.93	377	492 Shell-Thick	INVSLE	Combination	2.9248	0.6443	-12.31	
1.96	377	492 Shell-Thick	INVSLE	Combination	3.4156	0.7190	-12.31	
1.96	377	492 Shell-Thick	INVSLE	Combination	3.1502	0.2243	-12.28	
1.93	377	492 Shell-Thick	INVSLE	Combination	2.6690	0.1418	-12.28	
2.59	378	493 Shell-Thick	INVSLE	Combination	4.3601	0.7108	-3.01	
2.67	378	493 Shell-Thick	INVSLE	Combination	5.0690	0.8162	-3.01	
2.67	378	493 Shell-Thick	INVSLE	Combination	4.9286	0.5205	-2.92	
2.59	378	493 Shell-Thick	INVSLE	Combination	4.2212	0.4138	-2.92	
2.34	378	493 Shell-Thick	INVSLE	Combination	2.0208	0.3231	-6.05	
2.40	378	493 Shell-Thick	INVSLE	Combination	2.3727	0.3629	-6.05	
2.40	378	493 Shell-Thick	INVSLE	Combination	2.1887	0.0370	-5.98	
2.34	378	493 Shell-Thick	INVSLE	Combination	1.8432	-0.0082	-5.98	
3.49	378	493 Shell-Thick	INVSLE	Combination	9.1486	1.5044	-4.06	
3.60	378	493 Shell-Thick	INVSLE	Combination	10.5882	1.7441	-4.06	
3.60	378	493 Shell-Thick	INVSLE	Combination	10.5372	1.5101	-3.94	
3.49	378	493 Shell-Thick	INVSLE	Combination	9.0888	1.2777	-3.94	
1.83	378	493 Shell-Thick	INVSLE	Combination	2.7281	0.4362	-12.28	
1.86	378	493 Shell-Thick	INVSLE	Combination	3.2032	0.4900	-12.28	
1.86	378	493 Shell-Thick	INVSLE	Combination	2.9547	0.0500	-12.25	
1.83	378	493 Shell-Thick	INVSLE	Combination	2.4883	-0.0111	-12.25	
2.17	379	494 Shell-Thick	INVSLE	Combination	4.2423	0.5180	-2.92	
2.23	379	494 Shell-Thick	INVSLE	Combination	4.9434	0.5955	-2.92	
2.23	379	494 Shell-Thick	INVSLE	Combination	4.8332	0.3448	-2.84	
2.17	379	494 Shell-Thick	INVSLE	Combination	4.1332	0.2664	-2.84	
1.98	379	494 Shell-Thick	INVSLE	Combination	1.8831	0.1931	-5.98	
2.04	379	494 Shell-Thick	INVSLE	Combination	2.2252	0.2181	-5.98	
2.04	379	494 Shell-Thick	INVSLE	Combination	2.0644	-0.0546	-5.92	
1.98	379	494 Shell-Thick	INVSLE	Combination	1.7282	-0.0845	-5.92	
2.92	379	494 Shell-Thick	INVSLE	Combination	9.0712	1.1831	-3.94	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 114 di 416
3.02	379	494 Shell-Thick	INVSLU Combination	10.5074	1.3679	-3.94		
3.02	379	494 Shell-Thick	INVSLU Combination	10.5009	1.1624	-3.84		
2.92	379	494 Shell-Thick	INVSLU Combination	9.0561	0.9848	-3.84		
1.60	379	494 Shell-Thick	INVSLU Combination	2.5422	0.2607	-12.25		
1.63	379	494 Shell-Thick	INVSLU Combination	3.0040	0.2945	-12.25		
1.63	379	494 Shell-Thick	INVSLU Combination	2.7869	-0.0738	-12.22		
1.60	379	494 Shell-Thick	INVSLU Combination	2.3330	-0.1141	-12.22		
1.64	380	495 Shell-Thick	INVSLE Combination	4.1484	0.3410	-2.84		
1.69	380	495 Shell-Thick	INVSLE Combination	4.8429	0.3950	-2.84		
1.69	380	495 Shell-Thick	INVSLE Combination	4.7624	0.2028	-2.79		
1.64	380	495 Shell-Thick	INVSLE Combination	4.0677	0.1489	-2.79		
1.52	380	495 Shell-Thick	INVSLE Combination	1.7628	0.0914	-5.92		
1.56	380	495 Shell-Thick	INVSLE Combination	2.0969	0.1055	-5.92		
1.56	380	495 Shell-Thick	INVSLE Combination	1.9624	-0.1009	-5.88		
1.52	380	495 Shell-Thick	INVSLE Combination	1.6332	-0.1191	-5.88		
2.22	380	495 Shell-Thick	INVSLU Combination	9.0315	0.8517	-3.84		
2.22	380	495 Shell-Thick	INVSLU Combination	10.4639	0.9876	-3.84		
2.28	380	495 Shell-Thick	INVSLU Combination	10.4939	0.8245	-3.77		
2.28	380	495 Shell-Thick	INVSLU Combination	9.0511	0.6974	-3.77		
1.26	380	495 Shell-Thick	INVSLU Combination	2.3798	0.1234	-12.22		
1.28	380	495 Shell-Thick	INVSLU Combination	2.8308	0.1424	-12.22		
1.28	380	495 Shell-Thick	INVSLU Combination	2.6492	-0.1363	-12.20		
1.26	380	495 Shell-Thick	INVSLU Combination	2.2048	-0.1607	-12.20		
3.41	382	496 Shell-Thick	INVSLE Combination	5.5734	1.8356	-2.39		
3.48	382	496 Shell-Thick	INVSLE Combination	6.0906	1.9759	-2.39		
3.48	382	496 Shell-Thick	INVSLE Combination	5.9592	1.6239	-2.32		
3.41	382	496 Shell-Thick	INVSLE Combination	5.4431	1.4826	-2.32		
2.79	382	496 Shell-Thick	INVSLE Combination	3.0065	1.1506	-4.41		
2.84	382	496 Shell-Thick	INVSLE Combination	3.2862	1.2271	-4.41		
2.84	382	496 Shell-Thick	INVSLE Combination	3.0820	0.7983	-4.36		
2.79	382	496 Shell-Thick	INVSLE Combination	2.8072	0.7177	-4.36		
4.60	382	496 Shell-Thick	INVSLU Combination	10.8276	3.2376	-3.23		
4.70	382	496 Shell-Thick	INVSLU Combination	11.8310	3.5086	-3.23		
4.70	382	496 Shell-Thick	INVSLU Combination	11.8486	3.3137	-3.13		
4.60	382	496 Shell-Thick	INVSLU Combination	10.8385	3.0482	-3.13		
1.54	382	496 Shell-Thick	INVSLU Combination	4.0588	1.5533	-8.55		
1.53	382	496 Shell-Thick	INVSLU Combination	4.4364	1.6566	-8.55		
1.53	382	496 Shell-Thick	INVSLU Combination	4.1607	1.0777	-8.55		
1.54	382	496 Shell-Thick	INVSLU Combination	3.7898	0.9689	-8.55		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 115 di 416
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3.36	383	497 Shell-Thick	INVSLE Combination	5.4606	1.5669	-2.32		
3.44	383	497 Shell-Thick	INVSLE Combination	5.9718	1.6901	-2.32		
3.44	383	497 Shell-Thick	INVSLE Combination	5.8198	1.3305	-2.24		
3.36	383	497 Shell-Thick	INVSLE Combination	5.3098	1.2063	-2.24		
2.85	383	497 Shell-Thick	INVSLE Combination	2.8509	0.9341	-4.36		
2.90	383	497 Shell-Thick	INVSLE Combination	3.1214	0.9971	-4.36		
2.90	383	497 Shell-Thick	INVSLE Combination	2.9086	0.5739	-4.31		
2.85	383	497 Shell-Thick	INVSLE Combination	2.6431	0.5066	-4.31		
4.54	383	497 Shell-Thick	INVSLE Combination	10.8025	2.8623	-3.13		
4.64	383	497 Shell-Thick	INVSLE Combination	11.8064	3.1087	-3.13		
4.64	383	497 Shell-Thick	INVSLE Combination	11.7790	2.8794	-3.02		
4.54	383	497 Shell-Thick	INVSLE Combination	10.7686	2.6386	-3.02		
1.81	383	497 Shell-Thick	INVSLE Combination	3.8487	1.2610	-8.55		
1.81	383	497 Shell-Thick	INVSLE Combination	4.2139	1.3461	-8.55		
1.81	383	497 Shell-Thick	INVSLE Combination	3.9266	0.7747	-8.55		
1.81	383	497 Shell-Thick	INVSLE Combination	3.5681	0.6840	-8.55		
3.23	384	498 Shell-Thick	INVSLE Combination	5.3305	1.3059	-2.24		
3.30	384	498 Shell-Thick	INVSLE Combination	5.8355	1.4124	-2.24		
3.30	384	498 Shell-Thick	INVSLE Combination	5.6836	1.0588	-2.16		
3.23	384	498 Shell-Thick	INVSLE Combination	5.1802	0.9510	-2.16		
2.81	384	498 Shell-Thick	INVSLE Combination	2.6878	0.7286	-4.31		
2.86	384	498 Shell-Thick	INVSLE Combination	2.9493	0.7790	-4.31		
2.86	384	498 Shell-Thick	INVSLE Combination	2.7388	0.3731	-4.25		
2.81	384	498 Shell-Thick	INVSLE Combination	2.4823	0.3186	-4.25		
4.35	384	498 Shell-Thick	INVSLE Combination	10.7399	2.4874	-3.02		
4.45	384	498 Shell-Thick	INVSLE Combination	11.7433	2.7090	-3.02		
4.45	384	498 Shell-Thick	INVSLE Combination	11.7115	2.4624	-2.92		
4.35	384	498 Shell-Thick	INVSLE Combination	10.7025	2.2454	-2.92		
1.95	384	498 Shell-Thick	INVSLE Combination	3.6285	0.9837	-8.55		
1.96	384	498 Shell-Thick	INVSLE Combination	3.9815	1.0516	-8.55		
1.96	384	498 Shell-Thick	INVSLE Combination	3.6973	0.5037	-8.54		
1.95	384	498 Shell-Thick	INVSLE Combination	3.3511	0.4301	-8.54		
2.99	385	499 Shell-Thick	INVSLE Combination	5.2018	1.0562	-2.16		
3.06	385	499 Shell-Thick	INVSLE Combination	5.7004	1.1459	-2.16		
3.06	385	499 Shell-Thick	INVSLE Combination	5.5473	0.8111	-2.09		
2.99	385	499 Shell-Thick	INVSLE Combination	5.0500	0.7204	-2.09		
2.66	385	499 Shell-Thick	INVSLE Combination	2.5265	0.5386	-4.25		
2.70	385	499 Shell-Thick	INVSLE Combination	2.7793	0.5770	-4.25		
2.70	385	499 Shell-Thick	INVSLE Combination	2.5753	0.2004	-4.20		

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 116 di 416
2.66	385	499 Shell-Thick	INVSLE	Combination	2.3272	0.1582	-4.20	
4.04	385	499 Shell-Thick	INVSLE	Combination	10.6781	2.1157	-2.92	
4.13	385	499 Shell-Thick	INVSLE	Combination	11.6796	2.3104	-2.92	
4.13	385	499 Shell-Thick	INVSLE	Combination	11.6309	2.0612	-2.83	
4.04	385	499 Shell-Thick	INVSLE	Combination	10.6235	1.8714	-2.83	
1.96	385	499 Shell-Thick	INVSLE	Combination	3.4108	0.7271	-8.54	
1.98	385	499 Shell-Thick	INVSLE	Combination	3.7521	0.7789	-8.54	
1.98	385	499 Shell-Thick	INVSLE	Combination	3.4766	0.2706	-8.52	
1.96	385	499 Shell-Thick	INVSLE	Combination	3.1417	0.2135	-8.52	
2.66	386	500 Shell-Thick	INVSLE	Combination	5.0705	0.8211	-2.09	
2.72	386	500 Shell-Thick	INVSLE	Combination	5.5632	0.8923	-2.09	
2.72	386	500 Shell-Thick	INVSLE	Combination	5.4307	0.5901	-2.03	
2.66	386	500 Shell-Thick	INVSLE	Combination	4.9392	0.5179	-2.03	
2.40	386	500 Shell-Thick	INVSLE	Combination	2.3693	0.3687	-4.20	
2.44	386	500 Shell-Thick	INVSLE	Combination	2.6143	0.3956	-4.20	
2.44	386	500 Shell-Thick	INVSLE	Combination	2.4275	0.0609	-4.16	
2.40	386	500 Shell-Thick	INVSLE	Combination	2.1869	0.0302	-4.16	
3.59	386	500 Shell-Thick	INVSLE	Combination	10.5999	1.7474	-2.82	
3.67	386	500 Shell-Thick	INVSLE	Combination	11.5993	1.9092	-2.82	
3.67	386	500 Shell-Thick	INVSLE	Combination	11.5782	1.6734	-2.74	
3.59	386	500 Shell-Thick	INVSLE	Combination	10.5732	1.5163	-2.74	
1.86	386	500 Shell-Thick	INVSLE	Combination	3.1985	0.4977	-8.52	
1.88	386	500 Shell-Thick	INVSLE	Combination	3.5293	0.5341	-8.52	
1.88	386	500 Shell-Thick	INVSLE	Combination	3.2771	0.0822	-8.50	
1.86	386	500 Shell-Thick	INVSLE	Combination	2.9522	0.0408	-8.50	
2.23	387	501 Shell-Thick	INVSLE	Combination	4.9562	0.6009	-2.03	
2.27	387	501 Shell-Thick	INVSLE	Combination	5.4434	0.6554	-2.03	
2.27	387	501 Shell-Thick	INVSLE	Combination	5.3317	0.3991	-1.98	
2.27	387	501 Shell-Thick	INVSLE	Combination	4.8449	0.3442	-1.98	
2.23	387	501 Shell-Thick	INVSLE	Combination	2.2253	0.2233	-4.16	
2.03	387	501 Shell-Thick	INVSLE	Combination	2.4636	0.2408	-4.16	
2.07	387	501 Shell-Thick	INVSLE	Combination	2.2979	-0.0393	-4.12	
2.07	387	501 Shell-Thick	INVSLE	Combination	2.0634	-0.0600	-4.12	
2.03	387	501 Shell-Thick	INVSLE	Combination	10.5461	1.3739	-2.74	
3.01	387	501 Shell-Thick	INVSLE	Combination	11.5429	1.5042	-2.74	
3.07	387	501 Shell-Thick	INVSLE	Combination	11.5418	1.2964	-2.68	
3.07	387	501 Shell-Thick	INVSLE	Combination	10.5385	1.1716	-2.68	
3.01	387	501 Shell-Thick	INVSLE	Combination	3.0041	0.3015	-8.50	
1.63	387	501 Shell-Thick	INVSLE	Combination	3.3259	0.3251	-8.50	
1.65	387	501 Shell-Thick	INVSLE	Combination				

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 117 di 416
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1.65	387	501 Shell-Thick	INVSLU Combination	3.1021	-0.0530	-8.48		
1.63	387	501 Shell-Thick	INVSLU Combination	2.7856	-0.0810	-8.48		
1.69	388	502 Shell-Thick	INVSLE Combination	4.8560	0.4006	-1.98		
1.72	388	502 Shell-Thick	INVSLE Combination	5.3390	0.4346	-1.98		
1.72	388	502 Shell-Thick	INVSLE Combination	5.2693	0.2385	-1.95		
1.69	388	502 Shell-Thick	INVSLE Combination	4.7863	0.2046	-1.95		
1.55	388	502 Shell-Thick	INVSLE Combination	2.0969	0.1098	-4.12		
1.58	388	502 Shell-Thick	INVSLE Combination	2.3299	0.1184	-4.12		
1.58	388	502 Shell-Thick	INVSLE Combination	2.1949	-0.0933	-4.09		
1.55	388	502 Shell-Thick	INVSLE Combination	1.9653	-0.1047	-4.09		
2.28	388	502 Shell-Thick	INVSLU Combination	10.5038	0.9957	-2.68		
2.32	388	502 Shell-Thick	INVSLU Combination	11.4984	1.0817	-2.68		
2.32	388	502 Shell-Thick	INVSLU Combination	11.5624	0.9178	-2.63		
2.28	388	502 Shell-Thick	INVSLU Combination	10.5606	0.8377	-2.63		
1.28	388	502 Shell-Thick	INVSLU Combination	2.8308	0.1483	-8.48		
1.29	388	502 Shell-Thick	INVSLU Combination	3.1454	0.1598	-8.48		
1.29	388	502 Shell-Thick	INVSLU Combination	2.9631	-0.1260	-8.47		
1.28	388	502 Shell-Thick	INVSLU Combination	2.6531	-0.1413	-8.47		
3.48	390	503 Shell-Thick	INVSLE Combination	6.0768	1.9755	-1.34		
3.52	390	503 Shell-Thick	INVSLE Combination	6.3661	2.0540	-1.34		
3.52	390	503 Shell-Thick	INVSLE Combination	6.2324	1.6975	-1.30		
3.48	390	503 Shell-Thick	INVSLE Combination	5.9440	1.6184	-1.30		
2.84	390	503 Shell-Thick	INVSLE Combination	3.2752	1.2298	-2.47		
2.86	390	503 Shell-Thick	INVSLE Combination	3.4317	1.2726	-2.47		
2.86	390	503 Shell-Thick	INVSLE Combination	3.2240	0.8364	-2.44		
2.84	390	503 Shell-Thick	INVSLE Combination	3.0704	0.7912	-2.44		
4.69	390	503 Shell-Thick	INVSLU Combination	11.8116	3.5021	-1.81		
4.75	390	503 Shell-Thick	INVSLU Combination	12.3727	3.6533	-1.81		
4.75	390	503 Shell-Thick	INVSLU Combination	12.3906	3.4602	-1.75		
4.69	390	503 Shell-Thick	INVSLU Combination	11.8261	3.3118	-1.75		
1.54	390	503 Shell-Thick	INVSLU Combination	4.4216	1.6602	-4.78		
1.53	390	503 Shell-Thick	INVSLU Combination	4.6328	1.7180	-4.78		
1.53	390	503 Shell-Thick	INVSLU Combination	4.3524	1.1291	-4.78		
1.54	390	503 Shell-Thick	INVSLU Combination	4.1450	1.0681	-4.78		
3.43	391	504 Shell-Thick	INVSLE Combination	5.9587	1.6910	-1.29		
3.47	391	504 Shell-Thick	INVSLE Combination	6.2448	1.7602	-1.29		
3.47	391	504 Shell-Thick	INVSLE Combination	6.0994	1.3960	-1.25		
3.43	391	504 Shell-Thick	INVSLE Combination	5.8144	1.3260	-1.25		
2.90	391	504 Shell-Thick	INVSLE Combination	3.1124	1.0004	-2.44		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 118 di 416
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2.93	391	504 Shell-Thick	INVSLE Combination	3.2637	1.0358	-2.44		
2.93	391	504 Shell-Thick	INVSLE Combination	3.0498	0.6051	-2.41		
2.93	391	504 Shell-Thick	INVSLE Combination	2.9013	0.5673	-2.41		
2.90	391	504 Shell-Thick	INVSLE Combination	2.9013	0.5673	-2.41		
4.63	391	504 Shell-Thick	INVSLE Combination	2.9013	0.5673	-2.41		
4.69	391	504 Shell-Thick	INVSLE Combination	2.9013	0.5673	-2.41		
4.69	391	504 Shell-Thick	INVSLE Combination	2.9013	0.5673	-2.41		
4.69	391	504 Shell-Thick	INVSLE Combination	2.9013	0.5673	-2.41		
4.63	391	504 Shell-Thick	INVSLE Combination	2.9013	0.5673	-2.41		
1.81	391	504 Shell-Thick	INVSLE Combination	2.9013	0.5673	-2.41		
1.81	391	504 Shell-Thick	INVSLE Combination	2.9013	0.5673	-2.41		
1.81	391	504 Shell-Thick	INVSLE Combination	2.9013	0.5673	-2.41		
1.81	391	504 Shell-Thick	INVSLE Combination	2.9013	0.5673	-2.41		
3.29	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
3.29	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
3.33	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
3.33	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
3.29	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
3.29	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
2.86	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
2.86	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
2.88	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
2.88	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
2.86	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
4.44	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
4.44	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
4.50	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
4.50	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
4.44	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
1.96	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
1.97	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
1.97	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
1.96	392	505 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
3.05	393	506 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
3.05	393	506 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
3.09	393	506 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
3.09	393	506 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
3.05	393	506 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
3.05	393	506 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
2.70	393	506 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
2.70	393	506 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
2.73	393	506 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
2.73	393	506 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
2.70	393	506 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
4.12	393	506 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
4.12	393	506 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
4.17	393	506 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
4.17	393	506 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		
4.12	393	506 Shell-Thick	INVSLE Combination	5.8323	1.4143	-1.25		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 119 di 416
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1.98	393	506 Shell-Thick	INVSLU Combination	3.7463	0.7839	-4.77		
1.99	393	506 Shell-Thick	INVSLU Combination	3.9374	0.8127	-4.77		
1.99	393	506 Shell-Thick	INVSLU Combination	3.6605	0.2954	-4.76		
1.98	393	506 Shell-Thick	INVSLU Combination	3.4730	0.2637	-4.76		
2.72	394	507 Shell-Thick	INVSLE Combination	5.5676	0.8953	-1.17		
2.75	394	507 Shell-Thick	INVSLE Combination	5.8432	0.9355	-1.17		
2.75	394	507 Shell-Thick	INVSLE Combination	5.7073	0.6290	-1.14		
2.72	394	507 Shell-Thick	INVSLE Combination	5.4323	0.5883	-1.14		
2.44	394	507 Shell-Thick	INVSLE Combination	2.6134	0.3992	-2.35		
2.46	394	507 Shell-Thick	INVSLE Combination	2.7506	0.4144	-2.35		
2.46	394	507 Shell-Thick	INVSLE Combination	2.5600	0.0738	-2.33		
2.44	394	507 Shell-Thick	INVSLE Combination	2.4252	0.0566	-2.33		
3.67	394	507 Shell-Thick	INVSLU Combination	11.6147	1.9109	-1.58		
3.71	394	507 Shell-Thick	INVSLU Combination	12.1736	2.0023	-1.58		
3.71	394	507 Shell-Thick	INVSLU Combination	12.1497	1.7655	-1.54		
3.67	394	507 Shell-Thick	INVSLU Combination	11.5876	1.6767	-1.54		
1.88	394	507 Shell-Thick	INVSLU Combination	3.5280	0.5389	-4.77		
1.89	394	507 Shell-Thick	INVSLU Combination	3.7133	0.5594	-4.77		
1.89	394	507 Shell-Thick	INVSLU Combination	3.4560	0.0996	-4.75		
1.88	394	507 Shell-Thick	INVSLU Combination	3.2740	0.0764	-4.75		
2.27	395	508 Shell-Thick	INVSLE Combination	5.4463	0.6586	-1.14		
2.30	395	508 Shell-Thick	INVSLE Combination	5.7191	0.6878	-1.14		
2.30	395	508 Shell-Thick	INVSLE Combination	5.6149	0.4282	-1.11		
2.27	395	508 Shell-Thick	INVSLE Combination	5.3425	0.3987	-1.11		
2.07	395	508 Shell-Thick	INVSLE Combination	2.4625	0.2441	-2.33		
2.09	395	508 Shell-Thick	INVSLE Combination	2.5961	0.2534	-2.33		
2.09	395	508 Shell-Thick	INVSLE Combination	2.4302	-0.0314	-2.30		
2.07	395	508 Shell-Thick	INVSLE Combination	2.2989	-0.0426	-2.30		
3.07	395	508 Shell-Thick	INVSLU Combination	11.5540	1.5072	-1.54		
3.10	395	508 Shell-Thick	INVSLU Combination	12.1118	1.5771	-1.54		
3.10	395	508 Shell-Thick	INVSLU Combination	12.1337	1.3690	-1.50		
3.07	395	508 Shell-Thick	INVSLU Combination	11.5727	1.3019	-1.50		
1.65	395	508 Shell-Thick	INVSLU Combination	3.3244	0.3295	-4.76		
1.66	395	508 Shell-Thick	INVSLU Combination	3.5047	0.3421	-4.76		
1.66	395	508 Shell-Thick	INVSLU Combination	3.2808	-0.0424	-4.74		
1.65	395	508 Shell-Thick	INVSLU Combination	3.1035	-0.0575	-4.74		
1.72	396	509 Shell-Thick	INVSLE Combination	5.3505	0.4381	-1.11		
1.74	396	509 Shell-Thick	INVSLE Combination	5.6208	0.4582	-1.11		
1.74	396	509 Shell-Thick	INVSLE Combination	5.5516	0.2597	-1.09		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 120 di 416
1.72	396	509 Shell-Thick	INVSLE Combination	5.2812	0.2397	-1.09		
1.58	396	509 Shell-Thick	INVSLE Combination	2.3314	0.1213	-2.30		
1.59	396	509 Shell-Thick	INVSLE Combination	2.4620	0.1264	-2.30		
1.59	396	509 Shell-Thick	INVSLE Combination	2.3252	-0.0889	-2.29		
1.58	396	509 Shell-Thick	INVSLE Combination	2.1965	-0.0956	-2.29		
2.32	396	509 Shell-Thick	INVSLE Combination	11.5304	1.0867	-1.50		
2.34	396	509 Shell-Thick	INVSLE Combination	12.0867	1.1375	-1.50		
2.34	396	509 Shell-Thick	INVSLE Combination	12.1558	0.9733	-1.47		
2.32	396	509 Shell-Thick	INVSLE Combination	11.5954	0.9259	-1.47		
1.30	396	509 Shell-Thick	INVSLE Combination	3.1474	0.1637	-4.75		
1.30	396	509 Shell-Thick	INVSLE Combination	3.3237	0.1706	-4.75		
1.30	396	509 Shell-Thick	INVSLE Combination	3.1390	-0.1201	-4.74		
1.30	396	509 Shell-Thick	INVSLE Combination	2.9653	-0.1291	-4.74		
3.51	398	510 Shell-Thick	INVSLE Combination	6.3540	2.0534	-0.28		
3.52	398	510 Shell-Thick	INVSLE Combination	6.4158	2.0696	-0.28		
3.52	398	510 Shell-Thick	INVSLE Combination	6.2879	1.7114	-0.27		
3.51	398	510 Shell-Thick	INVSLE Combination	6.2269	1.6946	-0.27		
2.86	398	510 Shell-Thick	INVSLE Combination	3.4244	1.2735	-0.52		
2.87	398	510 Shell-Thick	INVSLE Combination	3.4578	1.2824	-0.52		
2.87	398	510 Shell-Thick	INVSLE Combination	3.2512	0.8425	-0.52		
2.86	398	510 Shell-Thick	INVSLE Combination	3.2187	0.8329	-0.52		
4.74	398	510 Shell-Thick	INVSLE Combination	12.3507	3.6497	-0.38		
4.76	398	510 Shell-Thick	INVSLE Combination	12.4708	3.6809	-0.38		
4.76	398	510 Shell-Thick	INVSLE Combination	12.5039	3.4899	-0.37		
4.74	398	510 Shell-Thick	INVSLE Combination	12.3845	3.4582	-0.37		
1.53	398	510 Shell-Thick	INVSLE Combination	4.6229	1.7193	-1.02		
1.53	398	510 Shell-Thick	INVSLE Combination	4.6680	1.7312	-1.02		
1.53	398	510 Shell-Thick	INVSLE Combination	4.3891	1.1373	-1.02		
1.53	398	510 Shell-Thick	INVSLE Combination	4.3452	1.1245	-1.02		
3.47	399	511 Shell-Thick	INVSLE Combination	6.2398	1.7602	-0.27		
3.48	399	511 Shell-Thick	INVSLE Combination	6.3008	1.7745	-0.27		
3.48	399	511 Shell-Thick	INVSLE Combination	6.1512	1.4082	-0.27		
3.47	399	511 Shell-Thick	INVSLE Combination	6.0909	1.3933	-0.27		
2.93	399	511 Shell-Thick	INVSLE Combination	3.2594	1.0370	-0.52		
2.93	399	511 Shell-Thick	INVSLE Combination	3.2916	1.0444	-0.52		
2.93	399	511 Shell-Thick	INVSLE Combination	3.0758	0.6099	-0.51		
2.93	399	511 Shell-Thick	INVSLE Combination	3.0444	0.6020	-0.51		
4.69	399	511 Shell-Thick	INVSLE Combination	12.3403	3.2404	-0.37		
4.70	399	511 Shell-Thick	INVSLE Combination	12.4603	3.2691	-0.37		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 121 di 416
4.70	399	511 Shell-Thick	INVSLU Combination	12.4464	3.0421	-0.36		
4.69	399	511 Shell-Thick	INVSLU Combination	12.3270	3.0130	-0.36		
1.82	399	511 Shell-Thick	INVSLU Combination	4.4003	1.4000	-1.02		
1.82	399	511 Shell-Thick	INVSLU Combination	4.4437	1.4099	-1.02		
1.82	399	511 Shell-Thick	INVSLU Combination	4.1523	0.8234	-1.02		
1.82	399	511 Shell-Thick	INVSLU Combination	4.1099	0.8126	-1.02		
3.33	400	512 Shell-Thick	INVSLE Combination	6.1069	1.4742	-0.27		
3.34	400	512 Shell-Thick	INVSLE Combination	6.1670	1.4866	-0.27		
3.34	400	512 Shell-Thick	INVSLE Combination	6.0163	1.1259	-0.26		
3.33	400	512 Shell-Thick	INVSLE Combination	5.9568	1.1131	-0.26		
2.88	400	512 Shell-Thick	INVSLE Combination	3.0864	0.8122	-0.51		
2.89	400	512 Shell-Thick	INVSLE Combination	3.1174	0.8180	-0.51		
2.89	400	512 Shell-Thick	INVSLE Combination	2.9034	0.4014	-0.50		
2.88	400	512 Shell-Thick	INVSLE Combination	2.8731	0.3949	-0.50		
4.49	400	512 Shell-Thick	INVSLE Combination	12.2898	2.8295	-0.36		
4.51	400	512 Shell-Thick	INVSLE Combination	12.4095	2.8551	-0.36		
4.51	400	512 Shell-Thick	INVSLE Combination	12.3884	2.6090	-0.35		
4.49	400	512 Shell-Thick	INVSLE Combination	12.2691	2.5831	-0.35		
1.97	400	512 Shell-Thick	INVSLE Combination	4.1666	1.0964	-1.02		
1.97	400	512 Shell-Thick	INVSLE Combination	4.2085	1.1043	-1.02		
1.97	400	512 Shell-Thick	INVSLE Combination	3.9196	0.5418	-1.01		
1.97	400	512 Shell-Thick	INVSLE Combination	3.8787	0.5331	-1.01		
3.09	401	513 Shell-Thick	INVSLE Combination	5.9738	1.1987	-0.26		
3.10	401	513 Shell-Thick	INVSLE Combination	6.0331	1.2092	-0.26		
3.10	401	513 Shell-Thick	INVSLE Combination	5.8821	0.8678	-0.25		
3.09	401	513 Shell-Thick	INVSLE Combination	5.8234	0.8569	-0.25		
2.73	401	513 Shell-Thick	INVSLE Combination	2.9148	0.6034	-0.50		
2.73	401	513 Shell-Thick	INVSLE Combination	2.9447	0.6079	-0.50		
2.73	401	513 Shell-Thick	INVSLE Combination	2.7376	0.2214	-0.50		
2.73	401	513 Shell-Thick	INVSLE Combination	2.7083	0.2164	-0.50		
4.17	401	513 Shell-Thick	INVSLE Combination	12.2356	2.4172	-0.35		
4.18	401	513 Shell-Thick	INVSLE Combination	12.3549	2.4400	-0.35		
4.18	401	513 Shell-Thick	INVSLE Combination	12.3188	2.1908	-0.33		
4.17	401	513 Shell-Thick	INVSLE Combination	12.1998	2.1679	-0.33		
1.99	401	513 Shell-Thick	INVSLE Combination	3.9349	0.8146	-1.01		
1.99	401	513 Shell-Thick	INVSLE Combination	3.9754	0.8207	-1.01		
1.99	401	513 Shell-Thick	INVSLE Combination	3.6957	0.2990	-1.01		
1.99	401	513 Shell-Thick	INVSLE Combination	3.6562	0.2921	-1.01		
2.74	402	514 Shell-Thick	INVSLE Combination	5.8392	0.9364	-0.25		

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 122 di 416
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2.75	402	514 Shell-Thick	INVSLE	Combination	5.8976	0.9447	-0.25	
2.75	402	514 Shell-Thick	INVSLE	Combination	5.7674	0.6365	-0.24	
2.74	402	514 Shell-Thick	INVSLE	Combination	5.7094	0.6278	-0.24	
2.46	402	514 Shell-Thick	INVSLE	Combination	2.7482	0.4158	-0.50	
2.47	402	514 Shell-Thick	INVSLE	Combination	2.7771	0.4189	-0.50	
2.47	402	514 Shell-Thick	INVSLE	Combination	2.5876	0.0754	-0.49	
2.46	402	514 Shell-Thick	INVSLE	Combination	2.5593	0.0718	-0.49	
3.70	402	514 Shell-Thick	INVSLE	Combination	12.1663	2.0020	-0.33	
3.71	402	514 Shell-Thick	INVSLE	Combination	12.2851	2.0210	-0.33	
3.71	402	514 Shell-Thick	INVSLE	Combination	12.2764	1.7848	-0.32	
3.70	402	514 Shell-Thick	INVSLE	Combination	12.1576	1.7659	-0.32	
1.89	402	514 Shell-Thick	INVSLE	Combination	3.7100	0.5613	-1.01	
1.89	402	514 Shell-Thick	INVSLE	Combination	3.7491	0.5656	-1.01	
1.89	402	514 Shell-Thick	INVSLE	Combination	3.4933	0.1019	-1.01	
1.89	402	514 Shell-Thick	INVSLE	Combination	3.4550	0.0969	-1.01	
2.30	403	515 Shell-Thick	INVSLE	Combination	5.7216	0.6889	-0.24	
2.30	403	515 Shell-Thick	INVSLE	Combination	5.7793	0.6954	-0.24	
2.30	403	515 Shell-Thick	INVSLE	Combination	5.6722	0.4343	-0.23	
2.30	403	515 Shell-Thick	INVSLE	Combination	5.6148	0.4276	-0.23	
2.09	403	515 Shell-Thick	INVSLE	Combination	2.5958	0.2547	-0.49	
2.09	403	515 Shell-Thick	INVSLE	Combination	2.6239	0.2568	-0.49	
2.09	403	515 Shell-Thick	INVSLE	Combination	2.4567	-0.0304	-0.49	
2.09	403	515 Shell-Thick	INVSLE	Combination	2.4291	-0.0330	-0.49	
3.10	403	515 Shell-Thick	INVSLE	Combination	12.1198	1.5778	-0.32	
3.11	403	515 Shell-Thick	INVSLE	Combination	12.2382	1.5932	-0.32	
3.11	403	515 Shell-Thick	INVSLE	Combination	12.2543	1.3855	-0.32	
3.10	403	515 Shell-Thick	INVSLE	Combination	12.1357	1.3703	-0.32	
1.66	403	515 Shell-Thick	INVSLE	Combination	3.5044	0.3439	-1.01	
1.66	403	515 Shell-Thick	INVSLE	Combination	3.5423	0.3467	-1.01	
1.66	403	515 Shell-Thick	INVSLE	Combination	3.3165	-0.0411	-1.00	
1.66	403	515 Shell-Thick	INVSLE	Combination	3.2793	-0.0445	-1.00	
1.74	404	516 Shell-Thick	INVSLE	Combination	5.6210	0.4593	-0.23	
1.74	404	516 Shell-Thick	INVSLE	Combination	5.6782	0.4636	-0.23	
1.74	404	516 Shell-Thick	INVSLE	Combination	5.6141	0.2641	-0.23	
1.74	404	516 Shell-Thick	INVSLE	Combination	5.5570	0.2597	-0.23	
1.59	404	516 Shell-Thick	INVSLE	Combination	2.4611	0.1275	-0.49	
1.60	404	516 Shell-Thick	INVSLE	Combination	2.4886	0.1286	-0.49	
1.60	404	516 Shell-Thick	INVSLE	Combination	2.3529	-0.0886	-0.48	
1.59	404	516 Shell-Thick	INVSLE	Combination	2.3259	-0.0901	-0.48	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 123 di 416
2.34	404	516 Shell-Thick	INVSLU Combination	12.0892	1.1386	-0.32		
2.35	404	516 Shell-Thick	INVSLU Combination	12.2072	1.1493	-0.32		
2.35	404	516 Shell-Thick	INVSLU Combination	12.2894	0.9861	-0.31		
2.34	404	516 Shell-Thick	INVSLU Combination	12.1710	0.9758	-0.31		
1.30	404	516 Shell-Thick	INVSLU Combination	3.3225	0.1721	-1.00		
1.30	404	516 Shell-Thick	INVSLU Combination	3.3596	0.1736	-1.00		
1.30	404	516 Shell-Thick	INVSLU Combination	3.1765	-0.1196	-1.00		
1.30	404	516 Shell-Thick	INVSLU Combination	3.1400	-0.1216	-1.00		
3.52	406	517 Shell-Thick	INVSLE Combination	6.4148	2.0690	1.42		
3.50	406	517 Shell-Thick	INVSLE Combination	6.2493	2.0229	1.42		
3.50	406	517 Shell-Thick	INVSLE Combination	6.1164	1.6651	1.40		
3.52	406	517 Shell-Thick	INVSLE Combination	6.2827	1.7107	1.40		
2.87	406	517 Shell-Thick	INVSLE Combination	3.4573	1.2817	0.77		
2.86	406	517 Shell-Thick	INVSLE Combination	3.3676	1.2564	0.77		
2.86	406	517 Shell-Thick	INVSLE Combination	3.1610	0.8164	0.75		
2.87	406	517 Shell-Thick	INVSLE Combination	3.2496	0.8427	0.75		
4.76	406	517 Shell-Thick	INVSLU Combination	12.4688	3.6806	2.74		
4.73	406	517 Shell-Thick	INVSLU Combination	12.1479	3.5917	2.74		
4.73	406	517 Shell-Thick	INVSLU Combination	12.1660	3.4022	2.75		
4.76	406	517 Shell-Thick	INVSLU Combination	12.4914	3.4873	2.75		
1.53	406	517 Shell-Thick	INVSLU Combination	4.6673	1.7303	1.04		
1.53	406	517 Shell-Thick	INVSLU Combination	4.5462	1.6962	1.04		
1.53	406	517 Shell-Thick	INVSLU Combination	4.2674	1.1022	1.01		
1.53	406	517 Shell-Thick	INVSLU Combination	4.3869	1.1376	1.01		
3.48	407	518 Shell-Thick	INVSLE Combination	6.2947	1.7738	1.40		
3.46	407	518 Shell-Thick	INVSLE Combination	6.1307	1.7330	1.40		
3.46	407	518 Shell-Thick	INVSLE Combination	5.9859	1.3671	1.39		
3.48	407	518 Shell-Thick	INVSLE Combination	6.1504	1.4075	1.39		
2.93	407	518 Shell-Thick	INVSLE Combination	3.2895	1.0436	0.75		
2.92	407	518 Shell-Thick	INVSLE Combination	3.2025	1.0228	0.75		
2.92	407	518 Shell-Thick	INVSLE Combination	2.9896	0.5883	0.72		
2.93	407	518 Shell-Thick	INVSLE Combination	3.0753	0.6102	0.72		
4.70	407	518 Shell-Thick	INVSLU Combination	12.4461	3.2684	2.75		
4.67	407	518 Shell-Thick	INVSLU Combination	12.1245	3.1869	2.75		
4.67	407	518 Shell-Thick	INVSLU Combination	12.1193	2.9615	2.75		
4.70	407	518 Shell-Thick	INVSLU Combination	12.4449	3.0397	2.75		
1.81	407	518 Shell-Thick	INVSLU Combination	4.4409	1.4089	1.01		
1.81	407	518 Shell-Thick	INVSLU Combination	4.3234	1.3807	1.01		
1.81	407	518 Shell-Thick	INVSLU Combination	4.0359	0.7941	0.97		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 124 di 416
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1.81	407	518 Shell-Thick	INVSLU Combination	4.1517	0.8237		0.97	
3.34	408	519 Shell-Thick	INVSLE Combination	6.1655	1.4857		1.39	
3.32	408	519 Shell-Thick	INVSLE Combination	6.0032	1.4509		1.39	
3.32	408	519 Shell-Thick	INVSLE Combination	5.8473	1.0907		1.37	
3.34	408	519 Shell-Thick	INVSLE Combination	6.0099	1.1251		1.37	
2.89	408	519 Shell-Thick	INVSLE Combination	3.1166	0.8172		0.72	
2.87	408	519 Shell-Thick	INVSLE Combination	3.0322	0.8008		0.72	
2.87	408	519 Shell-Thick	INVSLE Combination	2.8182	0.3840		0.70	
2.89	408	519 Shell-Thick	INVSLE Combination	2.9012	0.4015		0.70	
4.51	408	519 Shell-Thick	INVSLU Combination	12.4065	2.8541		2.75	
4.48	408	519 Shell-Thick	INVSLU Combination	12.0847	2.7818		2.75	
4.48	408	519 Shell-Thick	INVSLU Combination	12.0478	2.5372		2.75	
4.48	408	519 Shell-Thick	INVSLU Combination	12.3733	2.6064		2.75	
4.51	408	519 Shell-Thick	INVSLU Combination	4.2074	1.1033		0.97	
1.97	408	519 Shell-Thick	INVSLU Combination	4.0935	1.0810		0.97	
1.97	408	519 Shell-Thick	INVSLU Combination	3.8045	0.5184		0.94	
1.97	408	519 Shell-Thick	INVSLU Combination	3.9166	0.5421		0.94	
1.97	408	519 Shell-Thick	INVSLU Combination	3.9166	0.5421		0.94	
3.10	409	520 Shell-Thick	INVSLE Combination	6.0261	1.2082		1.37	
3.10	409	520 Shell-Thick	INVSLE Combination	5.8655	1.1793		1.37	
3.08	409	520 Shell-Thick	INVSLE Combination	5.7196	0.8383		1.36	
3.08	409	520 Shell-Thick	INVSLE Combination	5.8803	0.8671		1.36	
3.10	409	520 Shell-Thick	INVSLE Combination	2.9422	0.6071		0.70	
2.73	409	520 Shell-Thick	INVSLE Combination	2.8604	0.5947		0.70	
2.72	409	520 Shell-Thick	INVSLE Combination	2.6563	0.2081		0.68	
2.72	409	520 Shell-Thick	INVSLE Combination	2.7367	0.2216		0.68	
2.73	409	520 Shell-Thick	INVSLU Combination	12.3385	2.4385		2.75	
4.18	409	520 Shell-Thick	INVSLU Combination	12.0168	2.3758		2.75	
4.15	409	520 Shell-Thick	INVSLU Combination	11.9900	2.1282		2.74	
4.15	409	520 Shell-Thick	INVSLU Combination	12.3150	2.1883		2.74	
4.18	409	520 Shell-Thick	INVSLU Combination	3.9720	0.8196		0.94	
1.99	409	520 Shell-Thick	INVSLU Combination	3.8616	0.8029		0.94	
1.99	409	520 Shell-Thick	INVSLU Combination	3.5859	0.2809		0.92	
1.99	409	520 Shell-Thick	INVSLU Combination	3.6946	0.2991		0.92	
1.99	409	520 Shell-Thick	INVSLU Combination	3.6946	0.2991		0.92	
2.75	410	521 Shell-Thick	INVSLE Combination	5.8952	0.9437		1.36	
2.73	410	521 Shell-Thick	INVSLE Combination	5.7364	0.9206		1.36	
2.73	410	521 Shell-Thick	INVSLE Combination	5.6013	0.6127		1.34	
2.73	410	521 Shell-Thick	INVSLE Combination	5.7603	0.6356		1.34	
2.75	410	521 Shell-Thick	INVSLE Combination	2.7760	0.4182		0.68	
2.47	410	521 Shell-Thick	INVSLE Combination	2.6966	0.4095		0.68	
2.46	410	521 Shell-Thick	INVSLE Combination	2.6966	0.4095		0.68	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 125 di 416
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2.46	410	521 Shell-Thick	INVSLE Combination	2.5069	0.0658		0.66	
2.47	410	521 Shell-Thick	INVSLE Combination	2.5851	0.0755		0.66	
3.72	410	521 Shell-Thick	INVSLU Combination	12.2801	2.0194		2.74	
3.69	410	521 Shell-Thick	INVSLU Combination	11.9588	1.9668		2.74	
3.69	410	521 Shell-Thick	INVSLU Combination	11.9352	1.7321		2.74	
3.72	410	521 Shell-Thick	INVSLU Combination	12.2597	1.7820		2.74	
1.89	410	521 Shell-Thick	INVSLU Combination	3.7476	0.5645		0.92	
1.88	410	521 Shell-Thick	INVSLU Combination	3.6403	0.5528		0.92	
1.88	410	521 Shell-Thick	INVSLU Combination	3.3843	0.0888		0.89	
1.89	410	521 Shell-Thick	INVSLU Combination	3.4899	0.1019		0.89	
2.30	411	522 Shell-Thick	INVSLE Combination	5.7718	0.6942		1.34	
2.29	411	522 Shell-Thick	INVSLE Combination	5.6145	0.6777		1.34	
2.29	411	522 Shell-Thick	INVSLE Combination	5.5111	0.4169		1.33	
2.30	411	522 Shell-Thick	INVSLE Combination	5.6687	0.4333		1.33	
2.09	411	522 Shell-Thick	INVSLE Combination	2.6213	0.2561		0.66	
2.08	411	522 Shell-Thick	INVSLE Combination	2.5439	0.2509		0.66	
2.08	411	522 Shell-Thick	INVSLE Combination	2.3790	-0.0366		0.65	
2.09	411	522 Shell-Thick	INVSLE Combination	2.4553	-0.0305		0.65	
3.11	411	522 Shell-Thick	INVSLU Combination	12.2207	1.5911		2.74	
3.09	411	522 Shell-Thick	INVSLU Combination	11.8998	1.5515		2.74	
3.09	411	522 Shell-Thick	INVSLU Combination	11.9224	1.3454		2.74	
3.11	411	522 Shell-Thick	INVSLU Combination	12.2463	1.3826		2.74	
1.66	411	522 Shell-Thick	INVSLU Combination	3.5388	0.3457		0.89	
1.65	411	522 Shell-Thick	INVSLU Combination	3.4342	0.3387		0.89	
1.65	411	522 Shell-Thick	INVSLU Combination	3.2116	-0.0495		0.87	
1.66	411	522 Shell-Thick	INVSLU Combination	3.3146	-0.0411		0.87	
1.74	412	523 Shell-Thick	INVSLE Combination	5.6743	0.4624		1.33	
1.73	412	523 Shell-Thick	INVSLE Combination	5.5182	0.4514		1.33	
1.73	412	523 Shell-Thick	INVSLE Combination	5.4500	0.2522		1.32	
1.74	412	523 Shell-Thick	INVSLE Combination	5.6065	0.2630		1.32	
1.60	412	523 Shell-Thick	INVSLE Combination	2.4871	0.1279		0.65	
1.59	412	523 Shell-Thick	INVSLE Combination	2.4112	0.1253		0.65	
1.59	412	523 Shell-Thick	INVSLE Combination	2.2755	-0.0922		0.63	
1.60	412	523 Shell-Thick	INVSLE Combination	2.3503	-0.0887		0.63	
2.35	412	523 Shell-Thick	INVSLU Combination	12.1984	1.1471		2.74	
2.34	412	523 Shell-Thick	INVSLU Combination	11.8780	1.1189		2.74	
2.34	412	523 Shell-Thick	INVSLU Combination	11.9480	0.9573		2.73	
2.35	412	523 Shell-Thick	INVSLU Combination	12.2716	0.9829		2.73	
1.30	412	523 Shell-Thick	INVSLU Combination	3.3576	0.1727		0.87	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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1.30	412	523 Shell-Thick	INVSLU Combination	3.2552	0.1691		0.87	
1.30	412	523 Shell-Thick	INVSLU Combination	3.0719	-0.1245		0.86	
1.30	412	523 Shell-Thick	INVSLU Combination	3.1730	-0.1198		0.86	
3.51	414	524 Shell-Thick	INVSLE Combination	6.2507	2.0223		3.36	
3.45	414	524 Shell-Thick	INVSLE Combination	5.8574	1.9136		3.36	
3.45	414	524 Shell-Thick	INVSLE Combination	5.7274	1.5585		3.32	
3.51	414	524 Shell-Thick	INVSLE Combination	6.1211	1.6669		3.32	
2.86	414	524 Shell-Thick	INVSLE Combination	3.3712	1.2542		1.82	
2.82	414	524 Shell-Thick	INVSLE Combination	3.1583	1.1949		1.82	
2.82	414	524 Shell-Thick	INVSLE Combination	2.9562	0.7584		1.77	
2.86	414	524 Shell-Thick	INVSLE Combination	3.1658	0.8204		1.77	
4.73	414	524 Shell-Thick	INVSLU Combination	12.1448	3.5946		6.50	
4.66	414	524 Shell-Thick	INVSLU Combination	11.3824	3.3847		6.50	
4.66	414	524 Shell-Thick	INVSLU Combination	11.3999	3.1963		6.51	
4.73	414	524 Shell-Thick	INVSLU Combination	12.1704	3.3995		6.51	
1.53	414	524 Shell-Thick	INVSLU Combination	4.5512	1.6931		2.46	
1.54	414	524 Shell-Thick	INVSLU Combination	4.2638	1.6131		2.46	
1.54	414	524 Shell-Thick	INVSLU Combination	3.9909	1.0239		2.38	
1.53	414	524 Shell-Thick	INVSLU Combination	4.2739	1.1076		2.38	
3.46	415	525 Shell-Thick	INVSLE Combination	6.1331	1.7315		3.32	
3.41	415	525 Shell-Thick	INVSLE Combination	5.7440	1.6366		3.32	
3.41	415	525 Shell-Thick	INVSLE Combination	5.5931	1.2736		3.29	
3.46	415	525 Shell-Thick	INVSLE Combination	5.9824	1.3684		3.29	
2.92	415	525 Shell-Thick	INVSLE Combination	3.2054	1.0201		1.77	
2.88	415	525 Shell-Thick	INVSLE Combination	2.9992	0.9714		1.77	
2.88	415	525 Shell-Thick	INVSLE Combination	2.7882	0.5404		1.71	
2.92	415	525 Shell-Thick	INVSLE Combination	2.9910	0.5918		1.71	
4.67	415	525 Shell-Thick	INVSLU Combination	12.1259	3.1879		6.52	
4.60	415	525 Shell-Thick	INVSLU Combination	11.3625	2.9982		6.52	
4.60	415	525 Shell-Thick	INVSLU Combination	11.3346	2.7746		6.51	
4.67	415	525 Shell-Thick	INVSLU Combination	12.1056	2.9579		6.51	
1.81	415	525 Shell-Thick	INVSLU Combination	4.3272	1.3771		2.38	
1.81	415	525 Shell-Thick	INVSLU Combination	4.0489	1.3114		2.38	
1.81	415	525 Shell-Thick	INVSLU Combination	3.7641	0.7295		2.31	
1.81	415	525 Shell-Thick	INVSLU Combination	4.0379	0.7990		2.31	
3.32	416	526 Shell-Thick	INVSLE Combination	5.9975	1.4487		3.29	
3.27	416	526 Shell-Thick	INVSLE Combination	5.6127	1.3667		3.29	
3.27	416	526 Shell-Thick	INVSLE Combination	5.4618	1.0093		3.25	
3.32	416	526 Shell-Thick	INVSLE Combination	5.8463	1.0915		3.25	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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2.87	416	526 Shell-Thick	INVSLE Combination	3.0319	0.7978		1.71	
2.84	416	526 Shell-Thick	INVSLE Combination	2.8323	0.7590		1.71	
2.84	416	526 Shell-Thick	INVSLE Combination	2.6235	0.3456		1.65	
2.87	416	526 Shell-Thick	INVSLE Combination	2.8197	0.3872		1.65	
4.48	416	526 Shell-Thick	INVSLE Combination	12.0678	2.7811		6.52	
4.41	416	526 Shell-Thick	INVSLE Combination	11.3042	2.6105		6.52	
4.41	416	526 Shell-Thick	INVSLE Combination	11.2716	2.3680		6.51	
4.48	416	526 Shell-Thick	INVSLE Combination	12.0417	2.5333		6.51	
1.96	416	526 Shell-Thick	INVSLE Combination	4.0931	1.0770		2.31	
1.96	416	526 Shell-Thick	INVSLE Combination	3.8236	1.0247		2.31	
1.96	416	526 Shell-Thick	INVSLE Combination	3.5418	0.4665		2.23	
1.96	416	526 Shell-Thick	INVSLE Combination	3.8066	0.5227		2.23	
3.08	417	527 Shell-Thick	INVSLE Combination	5.8625	1.1766		3.25	
3.03	417	527 Shell-Thick	INVSLE Combination	5.4824	1.1081		3.25	
3.03	417	527 Shell-Thick	INVSLE Combination	5.3304	0.7699		3.21	
3.08	417	527 Shell-Thick	INVSLE Combination	5.7104	0.8385		3.21	
2.72	417	527 Shell-Thick	INVSLE Combination	2.8604	0.5917		1.65	
2.69	417	527 Shell-Thick	INVSLE Combination	2.6671	0.5624		1.65	
2.69	417	527 Shell-Thick	INVSLE Combination	2.4648	0.1788		1.60	
2.72	417	527 Shell-Thick	INVSLE Combination	2.6548	0.2108		1.60	
4.16	417	527 Shell-Thick	INVSLE Combination	12.0078	2.3739		6.51	
4.09	417	527 Shell-Thick	INVSLE Combination	11.2451	2.2251		6.51	
4.09	417	527 Shell-Thick	INVSLE Combination	11.1960	1.9799		6.50	
4.16	417	527 Shell-Thick	INVSLE Combination	11.9652	2.1233		6.50	
1.99	417	527 Shell-Thick	INVSLE Combination	3.8615	0.7988		2.23	
1.98	417	527 Shell-Thick	INVSLE Combination	3.6006	0.7592		2.23	
1.98	417	527 Shell-Thick	INVSLE Combination	3.3275	0.2413		2.16	
1.99	417	527 Shell-Thick	INVSLE Combination	3.5839	0.2846		2.16	
2.74	418	528 Shell-Thick	INVSLE Combination	5.7256	0.9175		3.21	
2.70	418	528 Shell-Thick	INVSLE Combination	5.3496	0.8633		3.21	
2.70	418	528 Shell-Thick	INVSLE Combination	5.2185	0.5579		3.18	
2.74	418	528 Shell-Thick	INVSLE Combination	5.5943	0.6123		3.18	
2.46	418	528 Shell-Thick	INVSLE Combination	2.6939	0.4065		1.60	
2.42	418	528 Shell-Thick	INVSLE Combination	2.5063	0.3860		1.60	
2.42	418	528 Shell-Thick	INVSLE Combination	2.3212	0.0449		1.56	
2.46	418	528 Shell-Thick	INVSLE Combination	2.5057	0.0680		1.56	
3.70	418	528 Shell-Thick	INVSLE Combination	11.9315	1.9634		6.50	
3.64	418	528 Shell-Thick	INVSLE Combination	11.1698	1.8402		6.50	
3.64	418	528 Shell-Thick	INVSLE Combination	11.1491	1.6080		6.49	

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3.70	418	528 Shell-Thick	INVSLU Combination	11.9166	1.7263		6.49	
1.88	418	528 Shell-Thick	INVSLU Combination	3.6367	0.5488		2.16	
1.87	418	528 Shell-Thick	INVSLU Combination	3.3835	0.5212		2.16	
1.87	418	528 Shell-Thick	INVSLU Combination	3.1337	0.0606		2.10	
1.88	418	528 Shell-Thick	INVSLU Combination	3.3827	0.0918		2.10	
2.29	419	529 Shell-Thick	INVSLE Combination	5.6063	0.6744		3.18	
2.26	419	529 Shell-Thick	INVSLE Combination	5.2341	0.6334		3.18	
2.26	419	529 Shell-Thick	INVSLE Combination	5.1241	0.3748		3.15	
2.29	419	529 Shell-Thick	INVSLE Combination	5.4964	0.4157		3.15	
2.08	419	529 Shell-Thick	INVSLE Combination	2.5418	0.2481		1.56	
2.05	419	529 Shell-Thick	INVSLE Combination	2.3591	0.2351		1.56	
2.05	419	529 Shell-Thick	INVSLE Combination	2.1953	-0.0504		1.52	
2.08	419	529 Shell-Thick	INVSLE Combination	2.3751	-0.0351		1.52	
3.09	419	529 Shell-Thick	INVSLU Combination	11.8790	1.5471		6.49	
3.05	419	529 Shell-Thick	INVSLU Combination	11.1189	1.4488		6.49	
3.05	419	529 Shell-Thick	INVSLU Combination	11.1191	1.2452		6.48	
3.09	419	529 Shell-Thick	INVSLU Combination	11.8855	1.3383		6.48	
1.65	419	529 Shell-Thick	INVSLU Combination	3.4315	0.3349		2.10	
1.64	419	529 Shell-Thick	INVSLU Combination	3.1848	0.3173		2.10	
1.64	419	529 Shell-Thick	INVSLU Combination	2.9637	-0.0681		2.05	
1.65	419	529 Shell-Thick	INVSLU Combination	3.2065	-0.0473		2.05	
1.73	420	530 Shell-Thick	INVSLE Combination	5.5028	0.4477		3.15	
1.71	420	530 Shell-Thick	INVSLE Combination	5.1337	0.4227		3.15	
1.71	420	530 Shell-Thick	INVSLE Combination	5.0660	0.2253		3.13	
1.73	420	530 Shell-Thick	INVSLE Combination	5.4356	0.2499		3.13	
1.59	420	530 Shell-Thick	INVSLE Combination	2.4071	0.1227		1.52	
1.57	420	530 Shell-Thick	INVSLE Combination	2.2283	0.1166		1.52	
1.57	420	530 Shell-Thick	INVSLE Combination	2.0953	-0.0995		1.49	
1.59	420	530 Shell-Thick	INVSLE Combination	2.2716	-0.0913		1.49	
2.34	420	530 Shell-Thick	INVSLU Combination	11.8396	1.1129		6.48	
2.30	420	530 Shell-Thick	INVSLU Combination	11.0807	1.0492		6.48	
2.30	420	530 Shell-Thick	INVSLU Combination	11.1468	0.8900		6.47	
2.34	420	530 Shell-Thick	INVSLU Combination	11.9120	0.9484		6.47	
1.30	420	530 Shell-Thick	INVSLU Combination	3.2496	0.1657		2.05	
1.29	420	530 Shell-Thick	INVSLU Combination	3.0082	0.1574		2.05	
1.29	420	530 Shell-Thick	INVSLU Combination	2.8287	-0.1343		2.02	
1.30	420	530 Shell-Thick	INVSLU Combination	3.0667	-0.1232		2.02	
3.46	422	531 Shell-Thick	INVSLE Combination	5.8681	1.9126		5.31	
3.37	422	531 Shell-Thick	INVSLE Combination	5.2468	1.7440		5.31	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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3.37	422	531 Shell-Thick	INVSLE Combination	5.1092	1.3942		5.25	
3.46	422	531 Shell-Thick	INVSLE Combination	5.7309	1.5624		5.25	
2.83	422	531 Shell-Thick	INVSLE Combination	3.1676	1.1907		2.88	
2.77	422	531 Shell-Thick	INVSLE Combination	2.8314	1.0987		2.88	
2.77	422	531 Shell-Thick	INVSLE Combination	2.6331	0.6696		2.79	
2.83	422	531 Shell-Thick	INVSLE Combination	2.9639	0.7660		2.79	
4.67	422	531 Shell-Thick	INVSLE Combination	11.3958	3.3901		10.28	
4.55	422	531 Shell-Thick	INVSLE Combination	10.1910	3.0650		10.28	
4.55	422	531 Shell-Thick	INVSLE Combination	10.1776	2.8777		10.29	
4.67	422	531 Shell-Thick	INVSLE Combination	11.3946	3.1925		10.29	
1.53	422	531 Shell-Thick	INVSLE Combination	4.2763	1.6075		3.89	
1.54	422	531 Shell-Thick	INVSLE Combination	3.8224	1.4833		3.89	
1.54	422	531 Shell-Thick	INVSLE Combination	3.5547	0.9039		3.76	
1.53	422	531 Shell-Thick	INVSLE Combination	4.0013	1.0341		3.76	
3.41	423	532 Shell-Thick	INVSLE Combination	5.7435	1.6340		5.25	
3.32	423	532 Shell-Thick	INVSLE Combination	5.1289	1.4845		5.25	
3.32	423	532 Shell-Thick	INVSLE Combination	4.9828	1.1271		5.18	
3.41	423	532 Shell-Thick	INVSLE Combination	5.5969	1.2769		5.18	
2.89	423	532 Shell-Thick	INVSLE Combination	3.0033	0.9665		2.79	
2.83	423	532 Shell-Thick	INVSLE Combination	2.6780	0.8902		2.79	
2.83	423	532 Shell-Thick	INVSLE Combination	2.4749	0.4664		2.69	
2.89	423	532 Shell-Thick	INVSLE Combination	2.7946	0.5474		2.69	
4.61	423	532 Shell-Thick	INVSLE Combination	11.3524	3.0003		10.29	
4.49	423	532 Shell-Thick	INVSLE Combination	10.1460	2.7010		10.29	
4.49	423	532 Shell-Thick	INVSLE Combination	10.1164	2.4795		10.29	
4.61	423	532 Shell-Thick	INVSLE Combination	11.3331	2.7702		10.29	
1.81	423	532 Shell-Thick	INVSLE Combination	4.0545	1.3047		3.76	
1.80	423	532 Shell-Thick	INVSLE Combination	3.6153	1.2017		3.76	
1.80	423	532 Shell-Thick	INVSLE Combination	3.3412	0.6296		3.63	
1.81	423	532 Shell-Thick	INVSLE Combination	3.7727	0.7390		3.63	
3.27	424	533 Shell-Thick	INVSLE Combination	5.6127	1.3630		5.19	
3.19	424	533 Shell-Thick	INVSLE Combination	5.0057	1.2344		5.19	
3.19	424	533 Shell-Thick	INVSLE Combination	4.8485	0.8827		5.12	
3.27	424	533 Shell-Thick	INVSLE Combination	5.4550	1.0117		5.12	
2.84	424	533 Shell-Thick	INVSLE Combination	2.8354	0.7538		2.69	
2.78	424	533 Shell-Thick	INVSLE Combination	2.5208	0.6930		2.69	
2.78	424	533 Shell-Thick	INVSLE Combination	2.3167	0.2864		2.60	
2.84	424	533 Shell-Thick	INVSLE Combination	2.6256	0.3518		2.60	
4.42	424	533 Shell-Thick	INVSLE Combination	11.2979	2.6100		10.29	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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4.31	424	533 Shell-Thick	INVSLU Combination	10.0922	2.3426	10.29		
4.31	424	533 Shell-Thick	INVSLU Combination	10.0310	2.1032	10.27		
4.42	424	533 Shell-Thick	INVSLU Combination	11.2466	2.3623	10.27		
1.95	424	533 Shell-Thick	INVSLU Combination	3.8277	1.0176	3.63		
1.94	424	533 Shell-Thick	INVSLU Combination	3.4031	0.9355	3.63		
1.94	424	533 Shell-Thick	INVSLU Combination	3.1276	0.3867	3.51		
1.95	424	533 Shell-Thick	INVSLU Combination	3.5446	0.4750	3.51		
3.04	425	534 Shell-Thick	INVSLE Combination	5.4721	1.1035	5.12		
2.96	425	534 Shell-Thick	INVSLE Combination	4.8723	0.9954	5.12		
2.96	425	534 Shell-Thick	INVSLE Combination	4.7262	0.6625	5.06		
3.04	425	534 Shell-Thick	INVSLE Combination	5.3250	0.7713	5.06		
2.69	425	534 Shell-Thick	INVSLE Combination	2.6663	0.5570	2.60		
2.63	425	534 Shell-Thick	INVSLE Combination	2.3619	0.5108	2.60		
2.63	425	534 Shell-Thick	INVSLE Combination	2.1676	0.1334	2.52		
2.69	425	534 Shell-Thick	INVSLE Combination	2.4665	0.1843	2.52		
4.10	425	534 Shell-Thick	INVSLU Combination	11.2154	2.2220	10.28		
4.00	425	534 Shell-Thick	INVSLU Combination	10.0110	1.9875	10.28		
4.00	425	534 Shell-Thick	INVSLU Combination	9.9634	1.7457	10.25		
4.10	425	534 Shell-Thick	INVSLU Combination	11.1764	1.9730	10.25		
1.97	425	534 Shell-Thick	INVSLU Combination	3.5995	0.7520	3.51		
1.95	425	534 Shell-Thick	INVSLU Combination	3.1886	0.6895	3.51		
1.95	425	534 Shell-Thick	INVSLU Combination	2.9263	0.1801	3.40		
1.97	425	534 Shell-Thick	INVSLU Combination	3.3297	0.2488	3.40		
2.70	426	535 Shell-Thick	INVSLE Combination	5.3415	0.8583	5.06		
2.63	426	535 Shell-Thick	INVSLE Combination	4.7488	0.7708	5.06		
2.63	426	535 Shell-Thick	INVSLE Combination	4.6101	0.4702	5.00		
2.70	426	535 Shell-Thick	INVSLE Combination	5.2022	0.5581	5.00		
2.43	426	535 Shell-Thick	INVSLE Combination	2.5057	0.3809	2.52		
2.37	426	535 Shell-Thick	INVSLE Combination	2.2106	0.3480	2.52		
2.37	426	535 Shell-Thick	INVSLE Combination	2.0291	0.0122	2.45		
2.43	426	535 Shell-Thick	INVSLE Combination	2.3190	0.0494	2.45		
3.65	426	535 Shell-Thick	INVSLU Combination	11.1461	1.8353	10.26		
3.55	426	535 Shell-Thick	INVSLU Combination	9.9443	1.6364	10.26		
3.55	426	535 Shell-Thick	INVSLU Combination	9.8933	1.4078	10.23		
3.65	426	535 Shell-Thick	INVSLU Combination	11.1041	1.5991	10.23		
1.87	426	535 Shell-Thick	INVSLU Combination	3.3827	0.5143	3.40		
1.85	426	535 Shell-Thick	INVSLU Combination	2.9843	0.4697	3.40		
1.85	426	535 Shell-Thick	INVSLU Combination	2.7392	0.0165	3.30		
1.87	426	535 Shell-Thick	INVSLU Combination	3.1306	0.0668	3.30		

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2.26	427	536 Shell-Thick	INVSLE Combination	5.2158	0.6278		5.00	
2.20	427	536 Shell-Thick	INVSLE Combination	4.6292	0.5641		5.00	
2.20	427	536 Shell-Thick	INVSLE Combination	4.5215	0.3095		4.96	
2.26	427	536 Shell-Thick	INVSLE Combination	5.1077	0.3734		4.96	
2.06	427	536 Shell-Thick	INVSLE Combination	2.3554	0.2303		2.45	
2.01	427	536 Shell-Thick	INVSLE Combination	2.0683	0.2099		2.45	
2.01	427	536 Shell-Thick	INVSLE Combination	1.9102	-0.0713		2.39	
2.06	427	536 Shell-Thick	INVSLE Combination	2.1926	-0.0470		2.39	
3.05	427	536 Shell-Thick	INVSLE Combination	11.0708	1.4414		10.23	
2.98	427	536 Shell-Thick	INVSLE Combination	9.8713	1.2892		10.23	
2.98	427	536 Shell-Thick	INVSLE Combination	9.8667	1.0890		10.21	
3.05	427	536 Shell-Thick	INVSLE Combination	11.0747	1.2340		10.21	
1.64	427	536 Shell-Thick	INVSLE Combination	3.1798	0.3109		3.30	
1.62	427	536 Shell-Thick	INVSLE Combination	2.7922	0.2833		3.30	
1.62	427	536 Shell-Thick	INVSLE Combination	2.5787	-0.0963		3.23	
1.64	427	536 Shell-Thick	INVSLE Combination	2.9600	-0.0634		3.23	
1.71	428	537 Shell-Thick	INVSLE Combination	5.1160	0.4170		4.96	
1.67	428	537 Shell-Thick	INVSLE Combination	4.5346	0.3731		4.96	
1.67	428	537 Shell-Thick	INVSLE Combination	4.4570	0.1787		4.92	
1.71	428	537 Shell-Thick	INVSLE Combination	5.0390	0.2221		4.92	
1.57	428	537 Shell-Thick	INVSLE Combination	2.2250	0.1125		2.39	
1.54	428	537 Shell-Thick	INVSLE Combination	1.9443	0.1014		2.39	
1.54	428	537 Shell-Thick	INVSLE Combination	1.8126	-0.1117		2.35	
1.57	428	537 Shell-Thick	INVSLE Combination	2.0893	-0.0972		2.35	
2.31	428	537 Shell-Thick	INVSLE Combination	11.0337	1.0401		10.21	
2.25	428	537 Shell-Thick	INVSLE Combination	9.8369	0.9292		10.21	
2.25	428	537 Shell-Thick	INVSLE Combination	9.8701	0.7732		10.20	
2.31	428	537 Shell-Thick	INVSLE Combination	11.0768	0.8758		10.20	
1.29	428	537 Shell-Thick	INVSLE Combination	3.0037	0.1519		3.22	
1.27	428	537 Shell-Thick	INVSLE Combination	2.6248	0.1369		3.22	
1.27	428	537 Shell-Thick	INVSLE Combination	2.4470	-0.1508		3.17	
1.29	428	537 Shell-Thick	INVSLE Combination	2.8206	-0.1313		3.17	
3.38	430	538 Shell-Thick	INVSLE Combination	5.2546	1.7418		7.26	
3.25	430	538 Shell-Thick	INVSLE Combination	4.4043	1.5131		7.26	
3.25	430	538 Shell-Thick	INVSLE Combination	4.2701	1.1712		7.18	
3.38	430	538 Shell-Thick	INVSLE Combination	5.1201	1.4002		7.18	
2.77	430	538 Shell-Thick	INVSLE Combination	2.8418	1.0922		3.94	
2.69	430	538 Shell-Thick	INVSLE Combination	2.3819	0.9680		3.94	
2.69	430	538 Shell-Thick	INVSLE Combination	2.1940	0.5501		3.80	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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2.77	430	538 Shell-Thick	INVSLE Combination	2.6461	0.6808		3.80	
4.56	430	538 Shell-Thick	INVSLE Combination	10.1936	3.0717		14.07	
4.39	430	538 Shell-Thick	INVSLE Combination	8.5438	2.6288		14.07	
4.39	430	538 Shell-Thick	INVSLE Combination	8.5197	2.4425		14.08	
4.56	430	538 Shell-Thick	INVSLE Combination	10.1845	2.8729		14.08	
1.54	430	538 Shell-Thick	INVSLE Combination	3.8364	1.4744		5.32	
1.54	430	538 Shell-Thick	INVSLE Combination	3.2156	1.3068		5.32	
1.54	430	538 Shell-Thick	INVSLE Combination	2.9620	0.7427		5.14	
1.54	430	538 Shell-Thick	INVSLE Combination	3.5722	0.9190		5.14	
3.33	431	539 Shell-Thick	INVSLE Combination	5.1340	1.4802		7.18	
3.21	431	539 Shell-Thick	INVSLE Combination	4.2939	1.2794		7.18	
3.21	431	539 Shell-Thick	INVSLE Combination	4.1419	0.9306		7.08	
3.33	431	539 Shell-Thick	INVSLE Combination	4.9813	1.1320		7.08	
2.83	431	539 Shell-Thick	INVSLE Combination	2.6854	0.8827		3.81	
2.74	431	539 Shell-Thick	INVSLE Combination	2.2411	0.7801		3.81	
2.74	431	539 Shell-Thick	INVSLE Combination	2.0463	0.3675		3.67	
2.83	431	539 Shell-Thick	INVSLE Combination	2.4826	0.4768		3.67	
4.50	431	539 Shell-Thick	INVSLE Combination	10.1461	2.7033		14.08	
4.33	431	539 Shell-Thick	INVSLE Combination	8.4959	2.3014		14.08	
4.33	431	539 Shell-Thick	INVSLE Combination	8.4316	2.0831		14.07	
4.50	431	539 Shell-Thick	INVSLE Combination	10.0959	2.4732		14.07	
1.80	431	539 Shell-Thick	INVSLE Combination	3.6253	1.1917		5.14	
1.79	431	539 Shell-Thick	INVSLE Combination	3.0255	1.0531		5.14	
1.79	431	539 Shell-Thick	INVSLE Combination	2.7625	0.4962		4.96	
1.80	431	539 Shell-Thick	INVSLE Combination	3.3515	0.6437		4.96	
3.20	432	540 Shell-Thick	INVSLE Combination	4.9983	1.2287		7.09	
3.08	432	540 Shell-Thick	INVSLE Combination	4.1687	1.0529		7.09	
3.08	432	540 Shell-Thick	INVSLE Combination	4.0200	0.7097		6.99	
3.20	432	540 Shell-Thick	INVSLE Combination	4.8480	0.8868		6.99	
2.78	432	540 Shell-Thick	INVSLE Combination	2.5233	0.6852		3.67	
2.69	432	540 Shell-Thick	INVSLE Combination	2.0942	0.6023		3.67	
2.69	432	540 Shell-Thick	INVSLE Combination	1.9025	0.2065		3.55	
2.78	432	540 Shell-Thick	INVSLE Combination	2.3235	0.2961		3.55	
4.32	432	540 Shell-Thick	INVSLE Combination	10.0645	2.3412		14.07	
4.16	432	540 Shell-Thick	INVSLE Combination	8.4151	1.9751		14.07	
4.16	432	540 Shell-Thick	INVSLE Combination	8.3544	1.7397		14.04	
4.32	432	540 Shell-Thick	INVSLE Combination	10.0155	2.0960		14.04	
1.93	432	540 Shell-Thick	INVSLE Combination	3.4064	0.9250		4.96	
1.91	432	540 Shell-Thick	INVSLE Combination	2.8271	0.8131		4.96	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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1.91	432	540 Shell-Thick	INVSLU Combination	2.5684	0.2787		4.79	
1.93	432	540 Shell-Thick	INVSLU Combination	3.1367	0.3997		4.79	
2.97	433	541 Shell-Thick	INVSLE Combination	4.8666	0.9889		6.99	
2.86	433	541 Shell-Thick	INVSLE Combination	4.0479	0.8404		6.99	
2.86	433	541 Shell-Thick	INVSLE Combination	3.8953	0.5157		6.90	
2.97	433	541 Shell-Thick	INVSLE Combination	4.7127	0.6653		6.90	
2.63	433	541 Shell-Thick	INVSLE Combination	2.3643	0.5031		3.55	
2.55	433	541 Shell-Thick	INVSLE Combination	1.9497	0.4395		3.55	
2.55	433	541 Shell-Thick	INVSLE Combination	1.7629	0.0719		3.43	
2.63	433	541 Shell-Thick	INVSLE Combination	2.1697	0.1420		3.43	
4.01	433	541 Shell-Thick	INVSLU Combination	9.9888	1.9832		14.05	
3.86	433	541 Shell-Thick	INVSLU Combination	8.3428	1.6611		14.05	
3.86	433	541 Shell-Thick	INVSLU Combination	8.2602	1.4241		14.01	
4.01	433	541 Shell-Thick	INVSLU Combination	9.9180	1.7364		14.01	
1.95	433	541 Shell-Thick	INVSLU Combination	3.1918	0.6792		4.79	
1.92	433	541 Shell-Thick	INVSLU Combination	2.6321	0.5934		4.79	
1.92	433	541 Shell-Thick	INVSLU Combination	2.3800	0.0971		4.63	
1.95	433	541 Shell-Thick	INVSLU Combination	2.9291	0.1916		4.63	
2.64	434	542 Shell-Thick	INVSLE Combination	4.7311	0.7636		6.90	
2.54	434	542 Shell-Thick	INVSLE Combination	3.9222	0.6438		6.90	
2.54	434	542 Shell-Thick	INVSLE Combination	3.7903	0.3504		6.82	
2.64	434	542 Shell-Thick	INVSLE Combination	4.5976	0.4714		6.82	
2.38	434	542 Shell-Thick	INVSLE Combination	2.2093	0.3407		3.43	
2.30	434	542 Shell-Thick	INVSLE Combination	1.8078	0.2952		3.43	
2.30	434	542 Shell-Thick	INVSLE Combination	1.6368	-0.0321		3.33	
2.38	434	542 Shell-Thick	INVSLE Combination	2.0309	0.0195		3.33	
3.56	434	542 Shell-Thick	INVSLU Combination	9.8930	1.6291		14.01	
3.43	434	542 Shell-Thick	INVSLU Combination	8.2503	1.3572		14.01	
3.43	434	542 Shell-Thick	INVSLU Combination	8.1984	1.1333		13.98	
3.56	434	542 Shell-Thick	INVSLU Combination	9.8516	1.3965		13.98	
1.84	434	542 Shell-Thick	INVSLU Combination	2.9826	0.4600		4.63	
1.81	434	542 Shell-Thick	INVSLU Combination	2.4405	0.3985		4.63	
1.81	434	542 Shell-Thick	INVSLU Combination	2.2097	-0.0434		4.49	
1.84	434	542 Shell-Thick	INVSLU Combination	2.7417	0.0264		4.49	
2.21	435	543 Shell-Thick	INVSLE Combination	4.6137	0.5566		6.82	
2.13	435	543 Shell-Thick	INVSLE Combination	3.8140	0.4641		6.82	
2.13	435	543 Shell-Thick	INVSLE Combination	3.6954	0.2156		6.76	
2.21	435	543 Shell-Thick	INVSLE Combination	4.4946	0.3085		6.76	
2.02	435	543 Shell-Thick	INVSLE Combination	2.0679	0.2035		3.33	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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1.95	435	543 Shell-Thick	INVSLE Combination	1.6777	0.1735		3.33	
1.95	435	543 Shell-Thick	INVSLE Combination	1.5238	-0.1010		3.24	
1.95	435	543 Shell-Thick	INVSLE Combination	1.9074	-0.0656		3.24	
2.02	435	543 Shell-Thick	INVSLE Combination	1.9074	-0.0656		3.24	
2.99	435	543 Shell-Thick	INVSLE Combination	1.9074	-0.0656		3.24	
2.88	435	543 Shell-Thick	INVSLE Combination	1.9074	-0.0656		3.24	
2.88	435	543 Shell-Thick	INVSLE Combination	1.9074	-0.0656		3.24	
2.99	435	543 Shell-Thick	INVSLE Combination	1.9074	-0.0656		3.24	
1.62	435	543 Shell-Thick	INVSLE Combination	1.9074	-0.0656		3.24	
1.59	435	543 Shell-Thick	INVSLE Combination	1.9074	-0.0656		3.24	
1.59	435	543 Shell-Thick	INVSLE Combination	1.9074	-0.0656		3.24	
1.62	435	543 Shell-Thick	INVSLE Combination	1.9074	-0.0656		3.24	
1.67	436	544 Shell-Thick	INVSLE Combination	4.5061	0.3651		6.76	
1.67	436	544 Shell-Thick	INVSLE Combination	3.7135	0.3073		6.76	
1.62	436	544 Shell-Thick	INVSLE Combination	3.6350	0.1174		6.71	
1.62	436	544 Shell-Thick	INVSLE Combination	4.4276	0.1751		6.71	
1.67	436	544 Shell-Thick	INVSLE Combination	1.9405	0.0959		3.24	
1.54	436	544 Shell-Thick	INVSLE Combination	1.5594	0.0808		3.24	
1.49	436	544 Shell-Thick	INVSLE Combination	1.4336	-0.1274		3.18	
1.49	436	544 Shell-Thick	INVSLE Combination	1.8091	-0.1076		3.18	
1.54	436	544 Shell-Thick	INVSLE Combination	1.8091	-0.1076		3.18	
2.26	436	544 Shell-Thick	INVSLE Combination	1.8091	-0.1076		3.18	
2.18	436	544 Shell-Thick	INVSLE Combination	1.8091	-0.1076		3.18	
2.18	436	544 Shell-Thick	INVSLE Combination	1.8091	-0.1076		3.18	
2.18	436	544 Shell-Thick	INVSLE Combination	1.8091	-0.1076		3.18	
2.26	436	544 Shell-Thick	INVSLE Combination	1.8091	-0.1076		3.18	
1.27	436	544 Shell-Thick	INVSLE Combination	1.8091	-0.1076		3.18	
1.24	436	544 Shell-Thick	INVSLE Combination	1.8091	-0.1076		3.18	
1.24	436	544 Shell-Thick	INVSLE Combination	1.8091	-0.1076		3.18	
1.27	436	544 Shell-Thick	INVSLE Combination	1.8091	-0.1076		3.18	
3.26	438	545 Shell-Thick	INVSLE Combination	4.4142	1.5085		9.23	
3.10	438	545 Shell-Thick	INVSLE Combination	3.3341	1.2261		9.23	
3.10	438	545 Shell-Thick	INVSLE Combination	3.1947	0.8956		9.11	
3.10	438	545 Shell-Thick	INVSLE Combination	4.2743	1.1785		9.11	
3.26	438	545 Shell-Thick	INVSLE Combination	2.3934	0.9583		5.00	
2.70	438	545 Shell-Thick	INVSLE Combination	1.8097	0.8048		5.00	
2.58	438	545 Shell-Thick	INVSLE Combination	1.6340	0.4027		4.82	
2.58	438	545 Shell-Thick	INVSLE Combination	2.2074	0.5647		4.82	
2.70	438	545 Shell-Thick	INVSLE Combination	2.2074	0.5647		4.82	
4.41	438	545 Shell-Thick	INVSLE Combination	8.5508	2.6348		17.89	
4.18	438	545 Shell-Thick	INVSLE Combination	6.4545	2.0884		17.89	
4.18	438	545 Shell-Thick	INVSLE Combination	6.3894	1.9046		17.88	
4.18	438	545 Shell-Thick	INVSLE Combination	6.3894	1.9046		17.88	
4.41	438	545 Shell-Thick	INVSLE Combination	8.5050	2.4350		17.88	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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1.54	438	545 Shell-Thick	INVSLU Combination	3.2311	1.2937		6.75	
1.53	438	545 Shell-Thick	INVSLU Combination	2.4431	1.0864		6.75	
1.53	438	545 Shell-Thick	INVSLU Combination	2.2059	0.5437		6.51	
1.54	438	545 Shell-Thick	INVSLU Combination	2.9800	0.7624		6.51	
3.22	439	546 Shell-Thick	INVSLE Combination	4.2895	1.2726		9.11	
3.05	439	546 Shell-Thick	INVSLE Combination	3.2230	1.0188		9.11	
3.05	439	546 Shell-Thick	INVSLE Combination	3.0819	0.6819		8.98	
3.22	439	546 Shell-Thick	INVSLE Combination	4.1463	0.9374		8.98	
2.75	439	546 Shell-Thick	INVSLE Combination	2.2466	0.7696		4.83	
2.63	439	546 Shell-Thick	INVSLE Combination	1.6834	0.6406		4.83	
2.63	439	546 Shell-Thick	INVSLE Combination	1.5062	0.2437		4.65	
2.75	439	546 Shell-Thick	INVSLE Combination	2.0586	0.3816		4.65	
4.35	439	546 Shell-Thick	INVSLU Combination	8.4711	2.3022		17.89	
4.12	439	546 Shell-Thick	INVSLU Combination	6.3744	1.7929		17.89	
4.12	439	546 Shell-Thick	INVSLU Combination	6.3074	1.5788		17.86	
4.35	439	546 Shell-Thick	INVSLU Combination	8.4199	2.0750		17.86	
1.78	439	546 Shell-Thick	INVSLU Combination	3.0329	1.0389		6.51	
1.75	439	546 Shell-Thick	INVSLU Combination	2.2726	0.8648		6.51	
1.75	439	546 Shell-Thick	INVSLU Combination	2.0334	0.3290		6.28	
1.78	439	546 Shell-Thick	INVSLU Combination	2.7791	0.5152		6.28	
3.09	440	547 Shell-Thick	INVSLE Combination	4.1649	1.0447		8.99	
2.93	440	547 Shell-Thick	INVSLE Combination	3.1133	0.8243		8.99	
2.93	440	547 Shell-Thick	INVSLE Combination	2.9615	0.4932		8.86	
3.09	440	547 Shell-Thick	INVSLE Combination	4.0110	0.7153		8.86	
2.70	440	547 Shell-Thick	INVSLE Combination	2.0992	0.5917		4.65	
2.58	440	547 Shell-Thick	INVSLE Combination	1.5563	0.4876		4.65	
2.58	440	547 Shell-Thick	INVSLE Combination	1.3782	0.1067		4.48	
2.70	440	547 Shell-Thick	INVSLE Combination	1.9104	0.2196		4.48	
4.17	440	547 Shell-Thick	INVSLU Combination	8.3934	1.9718		17.86	
3.96	440	547 Shell-Thick	INVSLU Combination	6.3002	1.5135		17.86	
3.96	440	547 Shell-Thick	INVSLU Combination	6.2026	1.2843		17.82	
4.17	440	547 Shell-Thick	INVSLU Combination	8.3109	1.7299		17.82	
1.91	440	547 Shell-Thick	INVSLU Combination	2.8340	0.7988		6.28	
1.86	440	547 Shell-Thick	INVSLU Combination	2.1011	0.6583		6.28	
1.86	440	547 Shell-Thick	INVSLU Combination	1.8605	0.1440		6.05	
1.91	440	547 Shell-Thick	INVSLU Combination	2.5790	0.2965		6.05	
2.87	441	548 Shell-Thick	INVSLE Combination	4.0315	0.8314		8.86	
2.72	441	548 Shell-Thick	INVSLE Combination	2.9939	0.6414		8.86	
2.72	441	548 Shell-Thick	INVSLE Combination	2.8552	0.3278		8.74	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 136 di 416
2.87	441	548 Shell-Thick	INVSLE	Combination	3.8897	0.5203	8.74	
2.55	441	548 Shell-Thick	INVSLE	Combination	1.9513	0.4294	4.48	
2.44	441	548 Shell-Thick	INVSLE	Combination	1.4275	0.3479	4.48	
2.44	441	548 Shell-Thick	INVSLE	Combination	1.2583	-0.0062	4.33	
2.55	441	548 Shell-Thick	INVSLE	Combination	1.7716	0.0841	4.33	
3.87	441	548 Shell-Thick	INVSLE	Combination	8.2896	1.6544	17.82	
3.68	441	548 Shell-Thick	INVSLE	Combination	6.2004	1.2422	17.82	
3.68	441	548 Shell-Thick	INVSLE	Combination	6.1238	1.0115	17.77	
3.87	441	548 Shell-Thick	INVSLE	Combination	8.2254	1.4133	17.77	
1.91	441	548 Shell-Thick	INVSLE	Combination	2.6342	0.5797	6.05	
1.86	441	548 Shell-Thick	INVSLE	Combination	1.9271	0.4696	6.05	
1.86	441	548 Shell-Thick	INVSLE	Combination	1.6987	-0.0083	5.84	
1.91	441	548 Shell-Thick	INVSLE	Combination	2.3916	0.1135	5.84	
2.55	442	549 Shell-Thick	INVSLE	Combination	3.9107	0.6345	8.74	
2.43	442	549 Shell-Thick	INVSLE	Combination	2.8870	0.4778	8.74	
2.43	442	549 Shell-Thick	INVSLE	Combination	2.7469	0.1945	8.63	
2.55	442	549 Shell-Thick	INVSLE	Combination	3.7685	0.3529	8.63	
2.31	442	549 Shell-Thick	INVSLE	Combination	1.8115	0.2861	4.33	
2.21	442	549 Shell-Thick	INVSLE	Combination	1.3052	0.2262	4.33	
2.21	442	549 Shell-Thick	INVSLE	Combination	1.1441	-0.0894	4.19	
2.31	442	549 Shell-Thick	INVSLE	Combination	1.6406	-0.0215	4.19	
3.45	442	549 Shell-Thick	INVSLE	Combination	8.2076	1.3478	17.77	
3.28	442	549 Shell-Thick	INVSLE	Combination	6.1248	0.9928	17.77	
3.28	442	549 Shell-Thick	INVSLE	Combination	6.0280	0.7755	17.72	
3.45	442	549 Shell-Thick	INVSLE	Combination	8.1241	1.1194	17.72	
1.81	442	549 Shell-Thick	INVSLE	Combination	2.4455	0.3862	5.84	
1.76	442	549 Shell-Thick	INVSLE	Combination	1.7621	0.3054	5.84	
1.76	442	549 Shell-Thick	INVSLE	Combination	1.5445	-0.1207	5.66	
1.81	442	549 Shell-Thick	INVSLE	Combination	2.2149	-0.0290	5.66	
2.14	443	550 Shell-Thick	INVSLE	Combination	3.7880	0.4546	8.63	
2.04	443	550 Shell-Thick	INVSLE	Combination	2.7761	0.3363	8.63	
2.04	443	550 Shell-Thick	INVSLE	Combination	2.6645	0.0959	8.54	
2.14	443	550 Shell-Thick	INVSLE	Combination	3.6745	0.2157	8.54	
1.96	443	550 Shell-Thick	INVSLE	Combination	1.6783	0.1656	4.19	
1.87	443	550 Shell-Thick	INVSLE	Combination	1.1870	0.1264	4.19	
1.87	443	550 Shell-Thick	INVSLE	Combination	1.0456	-0.1386	4.08	
1.96	443	550 Shell-Thick	INVSLE	Combination	1.5281	-0.0921	4.08	
2.89	443	550 Shell-Thick	INVSLE	Combination	8.1065	1.0460	17.72	
2.75	443	550 Shell-Thick	INVSLE	Combination	6.0290	0.7660	17.72	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 137 di 416
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2.75	443	550 Shell-Thick	INVSLU Combination	5.9783	0.5761	17.67		
2.89	443	550 Shell-Thick	INVSLU Combination	8.0680	0.8459	17.67		
1.58	443	550 Shell-Thick	INVSLU Combination	2.2657	0.2236	5.66		
1.53	443	550 Shell-Thick	INVSLU Combination	1.6024	0.1706	5.66		
1.53	443	550 Shell-Thick	INVSLU Combination	1.4116	-0.1872	5.51		
1.58	443	550 Shell-Thick	INVSLU Combination	2.0630	-0.1243	5.51		
1.62	444	551 Shell-Thick	INVSLE Combination	3.6904	0.2978	8.54		
1.55	444	551 Shell-Thick	INVSLE Combination	2.6885	0.2133	8.54		
1.55	444	551 Shell-Thick	INVSLE Combination	2.5931	0.0296	8.47		
1.62	444	551 Shell-Thick	INVSLE Combination	3.5948	0.1142	8.47		
1.50	444	551 Shell-Thick	INVSLE Combination	1.5622	0.0746	4.08		
1.44	444	551 Shell-Thick	INVSLE Combination	1.0829	0.0513	4.08		
1.44	444	551 Shell-Thick	INVSLE Combination	0.9608	-0.1502	4.00		
1.50	444	551 Shell-Thick	INVSLE Combination	1.4326	-0.1208	4.00		
2.19	444	551 Shell-Thick	INVSLU Combination	8.0466	0.7548	17.67		
2.09	444	551 Shell-Thick	INVSLU Combination	5.9752	0.5449	17.67		
2.09	444	551 Shell-Thick	INVSLU Combination	5.9344	0.3977	17.63		
2.19	444	551 Shell-Thick	INVSLU Combination	8.0206	0.5953	17.63		
1.24	444	551 Shell-Thick	INVSLU Combination	2.1089	0.1007	5.51		
1.21	444	551 Shell-Thick	INVSLU Combination	1.4619	0.0693	5.51		
1.21	444	551 Shell-Thick	INVSLU Combination	1.2971	-0.2027	5.40		
1.24	444	551 Shell-Thick	INVSLU Combination	1.9341	-0.1631	5.40		
3.11	446	552 Shell-Thick	INVSLE Combination	3.3306	1.2179	11.21		
2.90	446	552 Shell-Thick	INVSLE Combination	2.0189	0.8797	11.21		
2.90	446	552 Shell-Thick	INVSLE Combination	1.8914	0.5644	11.05		
3.11	446	552 Shell-Thick	INVSLE Combination	3.2010	0.9043	11.05		
2.59	446	552 Shell-Thick	INVSLE Combination	1.8158	0.7911	6.07		
2.44	446	552 Shell-Thick	INVSLE Combination	1.1078	0.6088	6.07		
2.44	446	552 Shell-Thick	INVSLE Combination	0.9550	0.2275	5.84		
2.59	446	552 Shell-Thick	INVSLE Combination	1.6497	0.4208	5.84		
4.20	446	552 Shell-Thick	INVSLU Combination	6.4312	2.0917	21.73		
3.91	446	552 Shell-Thick	INVSLU Combination	3.8841	1.4342	21.73		
3.91	446	552 Shell-Thick	INVSLU Combination	3.8083	1.2540	21.71		
4.20	446	552 Shell-Thick	INVSLU Combination	6.3764	1.8941	21.71		
1.52	446	552 Shell-Thick	INVSLU Combination	2.4514	1.0679	8.19		
1.50	446	552 Shell-Thick	INVSLU Combination	1.4955	0.8219	8.19		
1.50	446	552 Shell-Thick	INVSLU Combination	1.2892	0.3071	7.89		
1.52	446	552 Shell-Thick	INVSLU Combination	2.2271	0.5680	7.89		
3.07	447	553 Shell-Thick	INVSLE Combination	3.2176	1.0084	11.05		



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 138 di 416
2.86	447	553 Shell-Thick	INVSLE Combination	1.9247	0.7093	11.05		
2.86	447	553 Shell-Thick	INVSLE Combination	1.7854	0.3886	10.88		
3.07	447	553 Shell-Thick	INVSLE Combination	3.0755	0.6899	10.88		
2.63	447	553 Shell-Thick	INVSLE Combination	1.6884	0.6264	5.84		
2.48	447	553 Shell-Thick	INVSLE Combination	1.0067	0.4740	5.84		
2.48	447	553 Shell-Thick	INVSLE Combination	0.8504	0.0977	5.62		
2.63	447	553 Shell-Thick	INVSLE Combination	1.5184	0.2614	5.62		
4.14	447	553 Shell-Thick	INVSLE Combination	6.3477	1.7903	21.71		
3.86	447	553 Shell-Thick	INVSLE Combination	3.8036	1.1910	21.71		
3.86	447	553 Shell-Thick	INVSLE Combination	3.6993	0.9840	21.66		
4.14	447	553 Shell-Thick	INVSLE Combination	6.2628	1.5671	21.66		
1.75	447	553 Shell-Thick	INVSLE Combination	2.2793	0.8456	7.89		
1.69	447	553 Shell-Thick	INVSLE Combination	1.3591	0.6399	7.89		
1.69	447	553 Shell-Thick	INVSLE Combination	1.1480	0.1319	7.58		
1.75	447	553 Shell-Thick	INVSLE Combination	2.0498	0.3528	7.58		
2.94	448	554 Shell-Thick	INVSLE Combination	3.0954	0.8128	10.89		
2.74	448	554 Shell-Thick	INVSLE Combination	1.8212	0.5443	10.89		
2.74	448	554 Shell-Thick	INVSLE Combination	1.6907	0.2288	10.72		
2.94	448	554 Shell-Thick	INVSLE Combination	2.9605	0.5009	10.72		
2.59	448	554 Shell-Thick	INVSLE Combination	1.5586	0.4738	5.62		
2.43	448	554 Shell-Thick	INVSLE Combination	0.9027	0.3475	5.62		
2.43	448	554 Shell-Thick	INVSLE Combination	0.7509	-0.0140	5.40		
2.59	448	554 Shell-Thick	INVSLE Combination	1.3929	0.1239	5.40		
3.98	448	554 Shell-Thick	INVSLE Combination	6.2412	1.5067	21.67		
3.70	448	554 Shell-Thick	INVSLE Combination	3.7015	0.9472	21.67		
3.70	448	554 Shell-Thick	INVSLE Combination	3.6145	0.7258	21.60		
3.98	448	554 Shell-Thick	INVSLE Combination	6.1695	1.2726	21.60		
1.86	448	554 Shell-Thick	INVSLE Combination	2.1041	0.6397	7.59		
1.79	448	554 Shell-Thick	INVSLE Combination	1.2186	0.4691	7.59		
1.79	448	554 Shell-Thick	INVSLE Combination	1.0137	-0.0189	7.29		
1.86	448	554 Shell-Thick	INVSLE Combination	1.8804	0.1673	7.29		
2.74	449	555 Shell-Thick	INVSLE Combination	2.9830	0.6296	10.72		
2.55	449	555 Shell-Thick	INVSLE Combination	1.7281	0.3990	10.72		
2.55	449	555 Shell-Thick	INVSLE Combination	1.5884	0.1004	10.56		
2.74	449	555 Shell-Thick	INVSLE Combination	2.8395	0.3343	10.56		
2.45	449	555 Shell-Thick	INVSLE Combination	1.4336	0.3352	5.40		
2.30	449	555 Shell-Thick	INVSLE Combination	0.8023	0.2356	5.40		
2.30	449	555 Shell-Thick	INVSLE Combination	0.6520	-0.1006	5.21		
2.45	449	555 Shell-Thick	INVSLE Combination	1.2700	0.0100	5.21		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 140 di 416
1.54	451	557 Shell-Thick	INVSLU	Combination	1.4251	-0.1697	6.60	
1.56	452	558 Shell-Thick	INVSLE	Combination	2.6559	0.2024	10.30	
1.46	452	558 Shell-Thick	INVSLE	Combination	1.4467	0.0998	10.30	
1.46	452	558 Shell-Thick	INVSLE	Combination	1.3561	-0.0760	10.22	
1.56	452	558 Shell-Thick	INVSLE	Combination	2.5635	0.0281	10.22	
1.44	452	558 Shell-Thick	INVSLE	Combination	1.0909	0.0448	4.89	
1.36	452	558 Shell-Thick	INVSLE	Combination	0.5163	0.0149	4.89	
1.36	452	558 Shell-Thick	INVSLE	Combination	0.4074	-0.1777	4.79	
1.44	452	558 Shell-Thick	INVSLE	Combination	0.9723	-0.1398	4.79	
2.10	452	558 Shell-Thick	INVSLU	Combination	5.8593	0.5250	21.39	
1.97	452	558 Shell-Thick	INVSLU	Combination	3.3511	0.2737	21.39	
1.97	452	558 Shell-Thick	INVSLU	Combination	3.2981	0.1322	21.33	
2.10	452	558 Shell-Thick	INVSLU	Combination	5.8205	0.3717	21.33	
1.20	452	558 Shell-Thick	INVSLU	Combination	1.4727	0.0605	6.60	
1.15	452	558 Shell-Thick	INVSLU	Combination	0.6971	0.0201	6.60	
1.15	452	558 Shell-Thick	INVSLU	Combination	0.5499	-0.2399	6.46	
1.20	452	558 Shell-Thick	INVSLU	Combination	1.3126	-0.1887	6.46	
2.92	454	559 Shell-Thick	INVSLE	Combination	2.0054	0.8661	13.20	
2.65	454	559 Shell-Thick	INVSLE	Combination	0.4615	0.4844	13.20	
2.65	454	559 Shell-Thick	INVSLE	Combination	0.3411	0.1894	12.99	
2.92	454	559 Shell-Thick	INVSLE	Combination	1.8822	0.5734	12.99	
2.45	454	559 Shell-Thick	INVSLE	Combination	1.1072	0.5899	7.14	
2.25	454	559 Shell-Thick	INVSLE	Combination	0.2745	0.3839	7.14	
2.25	454	559 Shell-Thick	INVSLE	Combination	0.1507	0.0292	6.86	
2.45	454	559 Shell-Thick	INVSLE	Combination	0.9669	0.2487	6.86	
3.94	454	559 Shell-Thick	INVSLU	Combination	3.8441	1.4317	25.61	
3.57	454	559 Shell-Thick	INVSLU	Combination	0.8441	0.6900	25.61	
3.57	454	559 Shell-Thick	INVSLU	Combination	0.7307	0.5172	25.55	
3.94	454	559 Shell-Thick	INVSLU	Combination	3.7557	1.2380	25.55	
1.49	454	559 Shell-Thick	INVSLU	Combination	1.4947	0.7963	9.64	
1.44	454	559 Shell-Thick	INVSLU	Combination	0.3706	0.5183	9.64	
1.44	454	559 Shell-Thick	INVSLU	Combination	0.2035	0.0394	9.26	
1.49	454	559 Shell-Thick	INVSLU	Combination	1.3053	0.3358	9.26	
2.88	455	560 Shell-Thick	INVSLE	Combination	1.8995	0.6940	13.00	
2.61	455	560 Shell-Thick	INVSLE	Combination	0.3789	0.3443	13.00	
2.61	455	560 Shell-Thick	INVSLE	Combination	0.2665	0.0442	12.78	
2.88	455	560 Shell-Thick	INVSLE	Combination	1.7818	0.3981	12.78	
2.49	455	560 Shell-Thick	INVSLE	Combination	1.0044	0.4551	6.86	
2.28	455	560 Shell-Thick	INVSLE	Combination	0.2044	0.2786	6.86	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 141 di 416
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2.28	455	560 Shell-Thick	INVSLE Combination	0.0839	-0.0716		6.58	
2.49	455	560 Shell-Thick	INVSLE Combination	0.8665	0.1193		6.58	
3.88	455	560 Shell-Thick	INVSLU Combination	3.7317	1.1828		25.57	
3.52	455	560 Shell-Thick	INVSLU Combination	0.7360	0.4789		25.57	
3.52	455	560 Shell-Thick	INVSLU Combination	0.6402	0.2812		25.48	
3.88	455	560 Shell-Thick	INVSLU Combination	3.6553	0.9690		25.48	
1.69	455	560 Shell-Thick	INVSLU Combination	1.3559	0.6144		9.26	
1.60	455	560 Shell-Thick	INVSLU Combination	0.2760	0.3761		9.26	
1.60	455	560 Shell-Thick	INVSLU Combination	0.1133	-0.0966		8.88	
1.69	455	560 Shell-Thick	INVSLU Combination	1.1698	0.1610		8.88	
2.76	456	561 Shell-Thick	INVSLE Combination	1.8026	0.5284		12.79	
2.51	456	561 Shell-Thick	INVSLE Combination	0.3071	0.2209		12.79	
2.51	456	561 Shell-Thick	INVSLE Combination	0.1867	-0.0739		12.57	
2.76	456	561 Shell-Thick	INVSLE Combination	1.6768	0.2382		12.57	
2.44	456	561 Shell-Thick	INVSLE Combination	0.9056	0.3299		6.58	
2.44	456	561 Shell-Thick	INVSLE Combination	0.1381	0.1840		6.58	
2.24	456	561 Shell-Thick	INVSLE Combination	0.0172	-0.1525		6.31	
2.44	456	561 Shell-Thick	INVSLE Combination	0.7676	0.0076		6.31	
3.73	456	561 Shell-Thick	INVSLU Combination	3.6387	0.9348		25.49	
3.38	456	561 Shell-Thick	INVSLU Combination	0.6530	0.3037		25.49	
3.38	456	561 Shell-Thick	INVSLU Combination	0.5338	0.0872		25.38	
3.73	456	561 Shell-Thick	INVSLU Combination	3.5379	0.7102		25.38	
1.79	456	561 Shell-Thick	INVSLU Combination	1.2226	0.4453		8.88	
1.68	456	561 Shell-Thick	INVSLU Combination	0.1864	0.2484		8.88	
1.68	456	561 Shell-Thick	INVSLU Combination	0.0232	-0.2059		8.52	
1.79	456	561 Shell-Thick	INVSLU Combination	1.0362	0.0102		8.52	
2.57	457	562 Shell-Thick	INVSLE Combination	1.7003	0.3839		12.57	
2.33	457	562 Shell-Thick	INVSLE Combination	0.2282	0.1053		12.57	
2.33	457	562 Shell-Thick	INVSLE Combination	0.1232	-0.1743		12.37	
2.57	457	562 Shell-Thick	INVSLE Combination	1.5884	0.1099		12.37	
2.31	457	562 Shell-Thick	INVSLE Combination	0.8074	0.2202		6.31	
2.12	457	562 Shell-Thick	INVSLE Combination	0.0702	0.0994		6.31	
2.12	457	562 Shell-Thick	INVSLE Combination	-0.0436	-0.2141		6.06	
2.31	457	562 Shell-Thick	INVSLE Combination	0.6766	-0.0793		6.06	
3.47	457	562 Shell-Thick	INVSLU Combination	3.5279	0.7189		25.39	
3.15	457	562 Shell-Thick	INVSLU Combination	0.5515	0.1430		25.39	
3.15	457	562 Shell-Thick	INVSLU Combination	0.4647	-0.0928		25.28	
3.47	457	562 Shell-Thick	INVSLU Combination	3.4546	0.4973		25.28	
1.78	457	562 Shell-Thick	INVSLU Combination	1.0900	0.2973		8.52	

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1.67	457	562 Shell-Thick	INVSLU Combination	0.0948	0.1173		8.52	
1.67	457	562 Shell-Thick	INVSLU Combination	-0.0588	-0.2891		8.19	
1.78	457	562 Shell-Thick	INVSLU Combination	0.9135	-0.1071		8.19	
2.29	458	563 Shell-Thick	INVSLE Combination	1.6146	0.2574	12.37		
2.09	458	563 Shell-Thick	INVSLE Combination	0.1655	0.0337	12.37		
2.09	458	563 Shell-Thick	INVSLE Combination	0.0437	-0.2327	12.19		
2.29	458	563 Shell-Thick	INVSLE Combination	1.4873	0.0087	12.19		
2.09	458	563 Shell-Thick	INVSLE Combination	0.7166	0.1272	6.06		
1.92	458	563 Shell-Thick	INVSLE Combination	0.0073	0.0205	6.06		
1.92	458	563 Shell-Thick	INVSLE Combination	-0.1077	-0.2468	5.85		
2.09	458	563 Shell-Thick	INVSLE Combination	0.5860	-0.1404	5.85		
3.09	458	563 Shell-Thick	INVSLU Combination	3.4526	0.5237	25.28		
2.82	458	563 Shell-Thick	INVSLU Combination	0.4892	0.0454	25.28		
2.82	458	563 Shell-Thick	INVSLU Combination	0.3537	-0.2036	25.18		
3.09	458	563 Shell-Thick	INVSLU Combination	3.3322	0.3137	25.18		
1.68	458	563 Shell-Thick	INVSLU Combination	0.9674	0.1718	8.19		
1.58	458	563 Shell-Thick	INVSLU Combination	0.0099	-0.0063	8.19		
1.58	458	563 Shell-Thick	INVSLU Combination	-0.1454	-0.3332	7.90		
1.68	458	563 Shell-Thick	INVSLU Combination	0.7911	-0.1895	7.90		
1.93	459	564 Shell-Thick	INVSLE Combination	1.5149	0.1574	12.19		
1.76	459	564 Shell-Thick	INVSLE Combination	0.0851	-0.0130	12.19		
1.76	459	564 Shell-Thick	INVSLE Combination	-0.0135	-0.2498	12.04		
1.93	459	564 Shell-Thick	INVSLE Combination	1.4106	-0.0538	12.04		
1.78	459	564 Shell-Thick	INVSLE Combination	0.6249	0.0557	5.85		
1.64	459	564 Shell-Thick	INVSLE Combination	-0.0606	-0.0366	5.85		
1.64	459	564 Shell-Thick	INVSLE Combination	-0.1637	-0.2524	5.67		
1.78	459	564 Shell-Thick	INVSLE Combination	0.5075	-0.1692	5.67		
2.60	459	564 Shell-Thick	INVSLU Combination	3.3368	0.3656	25.18		
2.38	459	564 Shell-Thick	INVSLU Combination	0.3832	-0.0175	25.18		
2.38	459	564 Shell-Thick	INVSLU Combination	0.2937	-0.2578	25.08		
2.60	459	564 Shell-Thick	INVSLU Combination	3.2594	0.1826	25.08		
1.47	459	564 Shell-Thick	INVSLU Combination	0.8436	0.0752	7.90		
1.38	459	564 Shell-Thick	INVSLU Combination	-0.0818	-0.0849	7.90		
1.38	459	564 Shell-Thick	INVSLU Combination	-0.2209	-0.3412	7.66		
1.47	459	564 Shell-Thick	INVSLU Combination	0.6851	-0.2285	7.66		
1.47	460	565 Shell-Thick	INVSLE Combination	1.4388	0.0891	12.04		
1.35	460	565 Shell-Thick	INVSLE Combination	0.0258	-0.0365	12.04		
1.35	460	565 Shell-Thick	INVSLE Combination	-0.0923	-0.2177	11.93		
1.47	460	565 Shell-Thick	INVSLE Combination	1.3181	-0.0744	11.93		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 143 di 416
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1.37	460	565 Shell-Thick	INVSLE Combination	0.5441	0.0094		5.67	
1.26	460	565 Shell-Thick	INVSLE Combination	-0.1219	-0.0578		5.67	
1.26	460	565 Shell-Thick	INVSLE Combination	-0.2234	-0.2234		5.54	
1.37	460	565 Shell-Thick	INVSLE Combination	0.4308	-0.1620		5.54	
1.98	460	565 Shell-Thick	INVSLE Combination	3.2702	0.2521		25.09	
1.82	460	565 Shell-Thick	INVSLE Combination	0.3281	-0.0493		25.09	
1.82	460	565 Shell-Thick	INVSLE Combination	0.1759	-0.2351		25.02	
1.98	460	565 Shell-Thick	INVSLE Combination	3.1343	0.1048		25.02	
1.16	460	565 Shell-Thick	INVSLE Combination	0.7345	0.0127		7.65	
1.09	460	565 Shell-Thick	INVSLE Combination	-0.1645	-0.1013		7.65	
1.09	460	565 Shell-Thick	INVSLE Combination	-0.3015	-0.3025		7.48	
1.16	460	565 Shell-Thick	INVSLE Combination	0.5816	-0.2187		7.48	
2.67	462	566 Shell-Thick	INVSLE Combination	0.4201	0.4636		15.22	
2.34	462	566 Shell-Thick	INVSLE Combination	-0.6987	0.1290		15.22	
2.34	462	566 Shell-Thick	INVSLE Combination	-0.7771	-0.1928		14.95	
2.67	462	566 Shell-Thick	INVSLE Combination	0.3251	0.1987		14.95	
2.26	462	566 Shell-Thick	INVSLE Combination	0.2592	0.3584		8.22	
2.01	462	566 Shell-Thick	INVSLE Combination	-1.3586	0.0327		8.22	
2.01	462	566 Shell-Thick	INVSLE Combination	-1.4480	-0.2368		7.87	
2.26	462	566 Shell-Thick	INVSLE Combination	0.1602	0.0536		7.87	
3.60	462	566 Shell-Thick	INVSLE Combination	0.7492	0.6791		29.53	
3.16	462	566 Shell-Thick	INVSLE Combination	-0.9432	0.1741		29.53	
3.16	462	566 Shell-Thick	INVSLE Combination	-1.0491	-0.2602		29.43	
3.60	462	566 Shell-Thick	INVSLE Combination	0.6627	0.4956		29.43	
1.43	462	566 Shell-Thick	INVSLE Combination	0.3500	0.4838		11.10	
1.34	462	566 Shell-Thick	INVSLE Combination	-2.7096	-0.1645		11.10	
1.34	462	566 Shell-Thick	INVSLE Combination	-2.8213	-0.3269		10.63	
1.43	462	566 Shell-Thick	INVSLE Combination	0.2163	0.0724		10.63	
2.63	463	567 Shell-Thick	INVSLE Combination	0.3423	0.3224		14.95	
2.31	463	567 Shell-Thick	INVSLE Combination	-0.7219	0.0589		14.95	
2.31	463	567 Shell-Thick	INVSLE Combination	-0.7984	-0.2586		14.68	
2.63	463	567 Shell-Thick	INVSLE Combination	0.2449	0.0546		14.68	
2.29	463	567 Shell-Thick	INVSLE Combination	0.1955	0.2541		7.87	
2.03	463	567 Shell-Thick	INVSLE Combination	-1.4055	-0.0622		7.87	
2.03	463	567 Shell-Thick	INVSLE Combination	-1.4962	-0.3355		7.53	
2.29	463	567 Shell-Thick	INVSLE Combination	0.0979	-0.0461		7.53	
3.55	463	567 Shell-Thick	INVSLE Combination	0.6429	0.4622		29.44	
3.11	463	567 Shell-Thick	INVSLE Combination	-0.9746	0.0796		29.44	
3.11	463	567 Shell-Thick	INVSLE Combination	-1.0779	-0.3491		29.31	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 144 di 416
3.55	463	567 Shell-Thick	INVSLU Combination	0.5460	0.2605	29.31		
1.60	463	567 Shell-Thick	INVSLU Combination	0.2639	0.3430	10.63		
1.47	463	567 Shell-Thick	INVSLU Combination	-2.8048	-0.3100	10.63		
1.47	463	567 Shell-Thick	INVSLU Combination	-2.9245	-0.4927	10.16		
1.60	463	567 Shell-Thick	INVSLU Combination	0.1321	-0.0622	10.16		
2.53	464	568 Shell-Thick	INVSLE Combination	0.2654	0.1995	14.68		
2.22	464	568 Shell-Thick	INVSLE Combination	-0.7433	-0.0064	14.68		
2.22	464	568 Shell-Thick	INVSLE Combination	-0.8134	-0.3121	14.41		
2.53	464	568 Shell-Thick	INVSLE Combination	0.1809	-0.0620	14.41		
2.25	464	568 Shell-Thick	INVSLE Combination	0.1348	0.1619	7.53		
1.99	464	568 Shell-Thick	INVSLE Combination	-1.4521	-0.1578	7.53		
1.99	464	568 Shell-Thick	INVSLE Combination	-1.5274	-0.4268	7.20		
2.25	464	568 Shell-Thick	INVSLE Combination	0.0431	-0.1259	7.20		
3.41	464	568 Shell-Thick	INVSLU Combination	0.5328	0.2765	29.32		
2.99	464	568 Shell-Thick	INVSLU Combination	-1.0035	-0.0087	29.32		
2.99	464	568 Shell-Thick	INVSLU Combination	-1.0981	-0.4213	29.17		
3.41	464	568 Shell-Thick	INVSLU Combination	0.4631	0.0689	29.17		
1.68	464	568 Shell-Thick	INVSLU Combination	0.1819	0.2185	10.17		
1.53	464	568 Shell-Thick	INVSLU Combination	-2.9030	-0.4675	10.17		
1.53	464	568 Shell-Thick	INVSLU Combination	-2.9890	-0.6616	9.72		
1.68	464	568 Shell-Thick	INVSLU Combination	0.0581	-0.1700	9.72		
2.35	465	569 Shell-Thick	INVSLE Combination	0.2046	0.0858	14.41		
2.07	465	569 Shell-Thick	INVSLE Combination	-0.7593	-0.0581	14.41		
2.07	465	569 Shell-Thick	INVSLE Combination	-0.8311	-0.3433	14.16		
2.35	465	569 Shell-Thick	INVSLE Combination	0.1101	-0.1622	14.16		
2.13	465	569 Shell-Thick	INVSLE Combination	0.0811	0.0810	7.20		
1.89	465	569 Shell-Thick	INVSLE Combination	-1.4819	-0.2283	7.20		
1.89	465	569 Shell-Thick	INVSLE Combination	-1.5679	-0.4833	6.90		
2.13	465	569 Shell-Thick	INVSLE Combination	-0.0114	-0.1871	6.90		
3.18	465	569 Shell-Thick	INVSLU Combination	0.4575	0.1166	29.18		
2.79	465	569 Shell-Thick	INVSLU Combination	-1.0250	-0.0784	29.18		
2.79	465	569 Shell-Thick	INVSLU Combination	-1.1220	-0.4634	29.02		
3.18	465	569 Shell-Thick	INVSLU Combination	0.3588	-0.1111	29.02		
1.67	465	569 Shell-Thick	INVSLU Combination	0.1095	0.0957	9.72		
1.52	465	569 Shell-Thick	INVSLU Combination	-2.9611	-0.5768	9.72		
1.52	465	569 Shell-Thick	INVSLU Combination	-3.0761	-0.7699	9.31		
1.67	465	569 Shell-Thick	INVSLU Combination	-0.0154	-0.2526	9.31		
2.11	466	570 Shell-Thick	INVSLE Combination	0.1369	0.0200	14.16		
1.86	466	570 Shell-Thick	INVSLE Combination	-0.7793	-0.0980	14.16		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 146 di 416
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1.63	468	572 Shell-Thick	INVSLU Combination	-1.1232	-0.1390	28.77		
1.63	468	572 Shell-Thick	INVSLU Combination	-1.2177	-0.3643	28.67		
1.84	468	572 Shell-Thick	INVSLU Combination	0.0799	-0.2594	28.67		
1.09	468	572 Shell-Thick	INVSLU Combination	-0.1067	-0.1251	8.66		
0.99	468	572 Shell-Thick	INVSLU Combination	-3.1923	-0.5583	8.66		
0.99	468	572 Shell-Thick	INVSLU Combination	-3.3075	-0.6835	8.44		
1.09	468	572 Shell-Thick	INVSLU Combination	-0.2215	-0.2942	8.44		
2.37	470	573 Shell-Thick	INVSLE Combination	-0.7312	0.0952	17.24		
1.96	470	573 Shell-Thick	INVSLE Combination	-1.8145	-0.1502	17.24		
1.96	470	573 Shell-Thick	INVSLE Combination	-1.8352	-0.4314	16.90		
2.37	470	573 Shell-Thick	INVSLE Combination	-0.7767	-0.1654	16.90		
2.03	470	573 Shell-Thick	INVSLE Combination	-1.4261	0.0024	9.31		
1.71	470	573 Shell-Thick	INVSLE Combination	-3.4403	-0.4591	9.31		
1.71	470	573 Shell-Thick	INVSLE Combination	-3.4954	-0.6955	8.88		
2.03	470	573 Shell-Thick	INVSLE Combination	-1.4885	-0.2282	8.88		
3.19	470	573 Shell-Thick	INVSLU Combination	-0.9871	0.1286	33.49		
2.65	470	573 Shell-Thick	INVSLU Combination	-2.4495	-0.2028	33.49		
2.65	470	573 Shell-Thick	INVSLU Combination	-2.4775	-0.5824	33.33		
3.19	470	573 Shell-Thick	INVSLU Combination	-1.0486	-0.2233	33.33		
1.33	470	573 Shell-Thick	INVSLU Combination	-2.8486	-0.1875	12.56		
1.18	470	573 Shell-Thick	INVSLU Combination	-6.7683	-1.0912	12.56		
1.18	470	573 Shell-Thick	INVSLU Combination	-6.8939	-1.2363	11.99		
1.33	470	573 Shell-Thick	INVSLU Combination	-2.9456	-0.3566	11.99		
2.33	471	574 Shell-Thick	INVSLE Combination	-0.7450	0.0275	16.91		
1.94	471	574 Shell-Thick	INVSLE Combination	-1.7796	-0.1883	16.91		
1.94	471	574 Shell-Thick	INVSLE Combination	-1.7915	-0.4661	16.57		
2.33	471	574 Shell-Thick	INVSLE Combination	-0.7830	-0.2287	16.57		
2.05	471	574 Shell-Thick	INVSLE Combination	-1.4728	-0.0923	8.89		
1.72	471	574 Shell-Thick	INVSLE Combination	-3.4496	-0.5241	8.89		
1.72	471	574 Shell-Thick	INVSLE Combination	-3.4875	-0.7644	8.46		
2.05	471	574 Shell-Thick	INVSLE Combination	-1.5215	-0.3238	8.46		
3.15	471	574 Shell-Thick	INVSLU Combination	-1.0058	0.0371	33.35		
2.61	471	574 Shell-Thick	INVSLU Combination	-2.4025	-0.2543	33.35		
2.61	471	574 Shell-Thick	INVSLU Combination	-2.4185	-0.6293	33.16		
3.15	471	574 Shell-Thick	INVSLU Combination	-1.0571	-0.3088	33.16		
1.47	471	574 Shell-Thick	INVSLU Combination	-2.9626	-0.3376	12.00		
1.29	471	574 Shell-Thick	INVSLU Combination	-6.8680	-1.2113	12.00		
1.29	471	574 Shell-Thick	INVSLU Combination	-6.9591	-1.3749	11.43		
1.47	471	574 Shell-Thick	INVSLU Combination	-3.0330	-0.5185	11.43		

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2.24	472	575 Shell-Thick	INVSLE Combination	-0.7497	-0.0340	16.58		
1.86	472	575 Shell-Thick	INVSLE Combination	-1.7362	-0.2179	16.58		
1.86	472	575 Shell-Thick	INVSLE Combination	-1.7455	-0.4854	16.23		
2.24	472	575 Shell-Thick	INVSLE Combination	-0.7850	-0.2801	16.23		
2.01	472	575 Shell-Thick	INVSLE Combination	-1.5027	-0.1863	8.47		
1.69	472	575 Shell-Thick	INVSLE Combination	-3.4401	-0.5713	8.47		
1.69	472	575 Shell-Thick	INVSLE Combination	-3.4775	-0.8072	8.07		
2.01	472	575 Shell-Thick	INVSLE Combination	-1.5513	-0.4131	8.07		
3.03	472	575 Shell-Thick	INVSLE Combination	-1.0121	-0.0459	33.17		
2.52	472	575 Shell-Thick	INVSLE Combination	-2.3439	-0.2941	33.17		
2.52	472	575 Shell-Thick	INVSLE Combination	-2.3564	-0.6553	32.96		
3.03	472	575 Shell-Thick	INVSLE Combination	-1.0597	-0.3781	32.96		
1.53	472	575 Shell-Thick	INVSLE Combination	-3.0440	-0.4981	11.43		
1.33	472	575 Shell-Thick	INVSLE Combination	-6.9280	-1.2947	11.43		
1.33	472	575 Shell-Thick	INVSLE Combination	-7.0228	-1.4660	10.89		
1.53	472	575 Shell-Thick	INVSLE Combination	-3.1198	-0.6854	10.89		
2.09	473	576 Shell-Thick	INVSLE Combination	-0.7505	-0.0801	16.24		
1.74	473	576 Shell-Thick	INVSLE Combination	-1.6917	-0.2437	16.24		
1.74	473	576 Shell-Thick	INVSLE Combination	-1.6955	-0.4942	15.92		
2.09	473	576 Shell-Thick	INVSLE Combination	-0.7801	-0.3093	15.92		
1.90	473	576 Shell-Thick	INVSLE Combination	-1.5296	-0.2531	8.07		
1.60	473	576 Shell-Thick	INVSLE Combination	-3.4303	-0.6226	8.07		
1.60	473	576 Shell-Thick	INVSLE Combination	-3.4494	-0.8475	7.70		
1.90	473	576 Shell-Thick	INVSLE Combination	-1.5623	-0.4669	7.70		
2.82	473	576 Shell-Thick	INVSLE Combination	-1.0131	-0.1081	32.98		
2.35	473	576 Shell-Thick	INVSLE Combination	-2.2838	-0.3289	32.98		
2.35	473	576 Shell-Thick	INVSLE Combination	-2.2889	-0.6671	32.76		
2.82	473	576 Shell-Thick	INVSLE Combination	-1.0531	-0.4175	32.76		
1.52	473	576 Shell-Thick	INVSLE Combination	-3.1243	-0.6072	10.89		
1.32	473	576 Shell-Thick	INVSLE Combination	-6.9890	-1.3981	10.89		
1.32	473	576 Shell-Thick	INVSLE Combination	-7.0396	-1.5708	10.39		
1.52	473	576 Shell-Thick	INVSLE Combination	-3.1634	-0.7896	10.39		
1.88	474	577 Shell-Thick	INVSLE Combination	-0.7442	-0.1130	15.93		
1.57	474	577 Shell-Thick	INVSLE Combination	-1.6435	-0.2516	15.93		
1.57	474	577 Shell-Thick	INVSLE Combination	-1.6559	-0.4771	15.64		
1.88	474	577 Shell-Thick	INVSLE Combination	-0.7804	-0.3189	15.64		
1.73	474	577 Shell-Thick	INVSLE Combination	-1.5363	-0.3075	7.70		
1.46	474	577 Shell-Thick	INVSLE Combination	-3.4009	-0.6349	7.70		
1.46	474	577 Shell-Thick	INVSLE Combination	-3.4414	-0.8397	7.37		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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1.73	474	577 Shell-Thick	INVSLE Combination	-1.5884	-0.5027	7.37		
2.54	474	577 Shell-Thick	INVSLE Combination	-1.0047	-0.1526	32.77		
2.12	474	577 Shell-Thick	INVSLE Combination	-2.2188	-0.3396	32.77		
2.12	474	577 Shell-Thick	INVSLE Combination	-2.2354	-0.6441	32.57		
2.54	474	577 Shell-Thick	INVSLE Combination	-1.0535	-0.4305	32.57		
1.44	474	577 Shell-Thick	INVSLE Combination	-3.1577	-0.7056	10.39		
1.25	474	577 Shell-Thick	INVSLE Combination	-6.9982	-1.4195	10.39		
1.25	474	577 Shell-Thick	INVSLE Combination	-7.0962	-1.5818	9.95		
1.44	474	577 Shell-Thick	INVSLE Combination	-3.2425	-0.8790	9.95		
1.59	475	578 Shell-Thick	INVSLE Combination	-0.7431	-0.1185	15.65		
1.34	475	578 Shell-Thick	INVSLE Combination	-1.6067	-0.2455	15.65		
1.34	475	578 Shell-Thick	INVSLE Combination	-1.6232	-0.4380	15.41		
1.59	475	578 Shell-Thick	INVSLE Combination	-0.7817	-0.2927	15.41		
1.48	475	578 Shell-Thick	INVSLE Combination	-1.5568	-0.3057	7.37		
1.26	475	578 Shell-Thick	INVSLE Combination	-3.3920	-0.6318	7.37		
1.26	475	578 Shell-Thick	INVSLE Combination	-3.4213	-0.8089	7.11		
1.48	475	578 Shell-Thick	INVSLE Combination	-1.5989	-0.4721	7.11		
2.15	475	578 Shell-Thick	INVSLE Combination	-1.0032	-0.1600	32.58		
1.81	475	578 Shell-Thick	INVSLE Combination	-2.1690	-0.3315	32.58		
1.81	475	578 Shell-Thick	INVSLE Combination	-2.1913	-0.5913	32.42		
2.15	475	578 Shell-Thick	INVSLE Combination	-1.0553	-0.3952	32.42		
1.26	475	578 Shell-Thick	INVSLE Combination	-3.2223	-0.6888	9.95		
1.10	475	578 Shell-Thick	INVSLE Combination	-7.0465	-1.4226	9.95		
1.10	475	578 Shell-Thick	INVSLE Combination	-7.1019	-1.5680	9.59		
1.26	475	578 Shell-Thick	INVSLE Combination	-3.2717	-0.8392	9.59		
1.23	476	579 Shell-Thick	INVSLE Combination	-0.7424	-0.1017	15.41		
1.04	476	579 Shell-Thick	INVSLE Combination	-1.5762	-0.1974	15.41		
1.04	476	579 Shell-Thick	INVSLE Combination	-1.6319	-0.3465	15.24		
1.23	476	579 Shell-Thick	INVSLE Combination	-0.8159	-0.2360	15.24		
1.15	476	579 Shell-Thick	INVSLE Combination	-1.5555	-0.2591	7.10		
0.99	476	579 Shell-Thick	INVSLE Combination	-3.3644	-0.5201	7.10		
0.99	476	579 Shell-Thick	INVSLE Combination	-3.5004	-0.6577	6.91		
1.15	476	579 Shell-Thick	INVSLE Combination	-1.6993	-0.3902	6.91		
1.65	476	579 Shell-Thick	INVSLE Combination	-1.0022	-0.1373	32.42		
1.40	476	579 Shell-Thick	INVSLE Combination	-2.1279	-0.2664	32.42		
1.40	476	579 Shell-Thick	INVSLE Combination	-2.2031	-0.4677	32.31		
1.65	476	579 Shell-Thick	INVSLE Combination	-1.1015	-0.3186	32.31		
1.00	476	579 Shell-Thick	INVSLE Combination	-3.2200	-0.5814	9.59		
0.90	476	579 Shell-Thick	INVSLE Combination	-7.0246	-1.1808	9.59		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 149 di 416
0.90	476	579 Shell-Thick	INVSLE Combination	-7.3250	-1.2947	9.32		
1.00	476	579 Shell-Thick	INVSLE Combination	-3.5077	-0.7060	9.32		
2.00	478	580 Shell-Thick	INVSLE Combination	-1.8721	-0.1938	19.29		
1.51	478	580 Shell-Thick	INVSLE Combination	-3.0815	-0.4565	19.29		
1.51	478	580 Shell-Thick	INVSLE Combination	-3.0223	-0.6886	18.87		
2.00	478	580 Shell-Thick	INVSLE Combination	-1.8433	-0.4010	18.87		
1.73	478	580 Shell-Thick	INVSLE Combination	-3.5497	-0.5006	10.40		
1.33	478	580 Shell-Thick	INVSLE Combination	-5.8022	-1.0043	10.40		
1.33	478	580 Shell-Thick	INVSLE Combination	-5.7940	-1.2004	9.88		
1.73	478	580 Shell-Thick	INVSLE Combination	-3.5530	-0.6873	9.88		
2.70	478	580 Shell-Thick	INVSLE Combination	-2.5274	-0.2617	37.49		
2.04	478	580 Shell-Thick	INVSLE Combination	-4.1600	-0.6163	37.49		
2.04	478	580 Shell-Thick	INVSLE Combination	-4.0801	-0.9297	37.26		
2.70	478	580 Shell-Thick	INVSLE Combination	-2.4884	-0.5413	37.26		
1.18	478	580 Shell-Thick	INVSLE Combination	-6.9836	-1.1287	14.04		
0.96	478	580 Shell-Thick	INVSLE Combination	-11.3714	-2.1256	14.04		
0.96	478	580 Shell-Thick	INVSLE Combination	-11.4674	-2.2479	13.34		
1.18	478	580 Shell-Thick	INVSLE Combination	-7.0526	-1.2736	13.34		
1.97	479	581 Shell-Thick	INVSLE Combination	-1.8170	-0.2280	18.88		
1.49	479	581 Shell-Thick	INVSLE Combination	-2.9676	-0.4563	18.88		
1.49	479	581 Shell-Thick	INVSLE Combination	-2.8999	-0.6857	18.45		
1.97	479	581 Shell-Thick	INVSLE Combination	-1.7805	-0.4317	18.45		
1.74	479	581 Shell-Thick	INVSLE Combination	-3.5406	-0.5642	9.89		
1.34	479	581 Shell-Thick	INVSLE Combination	-5.7455	-1.0193	9.89		
1.34	479	581 Shell-Thick	INVSLE Combination	-5.7260	-1.2179	9.39		
1.74	479	581 Shell-Thick	INVSLE Combination	-3.5345	-0.7518	9.39		
2.66	479	581 Shell-Thick	INVSLE Combination	-2.4529	-0.3079	37.28		
2.02	479	581 Shell-Thick	INVSLE Combination	-4.0062	-0.6160	37.28		
2.02	479	581 Shell-Thick	INVSLE Combination	-3.9148	-0.9258	37.01		
2.66	479	581 Shell-Thick	INVSLE Combination	-2.4037	-0.5828	37.01		
1.29	479	581 Shell-Thick	INVSLE Combination	-7.0688	-1.2523	13.35		
1.03	479	581 Shell-Thick	INVSLE Combination	-11.4317	-2.1718	13.35		
1.03	479	581 Shell-Thick	INVSLE Combination	-11.5110	-2.3071	12.67		
1.29	479	581 Shell-Thick	INVSLE Combination	-7.1249	-1.4072	12.67		
1.89	480	582 Shell-Thick	INVSLE Combination	-1.7526	-0.2519	18.46		
1.44	480	582 Shell-Thick	INVSLE Combination	-2.8460	-0.4566	18.46		
1.44	480	582 Shell-Thick	INVSLE Combination	-2.7702	-0.6783	18.05		
1.89	480	582 Shell-Thick	INVSLE Combination	-1.7088	-0.4472	18.05		
1.71	480	582 Shell-Thick	INVSLE Combination	-3.5194	-0.6081	9.39		

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 150 di 416
1.32	480	582 Shell-Thick	INVSLE Combination	-5.6775	-1.0434	9.39		
1.32	480	582 Shell-Thick	INVSLE Combination	-5.6403	-1.2395	8.91		
1.71	480	582 Shell-Thick	INVSLE Combination	-3.4989	-0.7905	8.91		
2.56	480	582 Shell-Thick	INVSLE Combination	-2.3661	-0.3401	37.04		
1.94	480	582 Shell-Thick	INVSLE Combination	-3.8420	-0.6164	37.04		
1.94	480	582 Shell-Thick	INVSLE Combination	-3.7397	-0.9157	36.75		
2.56	480	582 Shell-Thick	INVSLE Combination	-2.3068	-0.6038	36.75		
1.33	480	582 Shell-Thick	INVSLE Combination	-7.1359	-1.3372	12.68		
1.06	480	582 Shell-Thick	INVSLE Combination	-11.4734	-2.2446	12.68		
1.06	480	582 Shell-Thick	INVSLE Combination	-11.5152	-2.3884	12.02		
1.33	480	582 Shell-Thick	INVSLE Combination	-7.1632	-1.4932	12.02		
1.77	481	583 Shell-Thick	INVSLE Combination	-1.6796	-0.2704	18.05		
1.35	481	583 Shell-Thick	INVSLE Combination	-2.7178	-0.4478	18.05		
1.35	481	583 Shell-Thick	INVSLE Combination	-2.6420	-0.6557	17.66		
1.77	481	583 Shell-Thick	INVSLE Combination	-1.6346	-0.4529	17.66		
1.62	481	583 Shell-Thick	INVSLE Combination	-3.4812	-0.6547	8.91		
1.25	481	583 Shell-Thick	INVSLE Combination	-5.5918	-1.0442	8.91		
1.25	481	583 Shell-Thick	INVSLE Combination	-5.5558	-1.2307	8.46		
1.62	481	583 Shell-Thick	INVSLE Combination	-3.4613	-0.8280	8.46		
2.39	481	583 Shell-Thick	INVSLE Combination	-2.2675	-0.3650	36.77		
1.82	481	583 Shell-Thick	INVSLE Combination	-3.6691	-0.6045	36.77		
1.82	481	583 Shell-Thick	INVSLE Combination	-3.5667	-0.8852	36.48		
2.39	481	583 Shell-Thick	INVSLE Combination	-2.2067	-0.6114	36.48		
1.32	481	583 Shell-Thick	INVSLE Combination	-7.1688	-1.4413	12.03		
1.05	481	583 Shell-Thick	INVSLE Combination	-11.4745	-2.2650	12.03		
1.05	481	583 Shell-Thick	INVSLE Combination	-11.5203	-2.4076	11.42		
1.32	481	583 Shell-Thick	INVSLE Combination	-7.2005	-1.5958	11.42		
1.60	482	584 Shell-Thick	INVSLE Combination	-1.6040	-0.2685	17.67		
1.22	482	584 Shell-Thick	INVSLE Combination	-2.5922	-0.4379	17.67		
1.22	482	584 Shell-Thick	INVSLE Combination	-2.5150	-0.6263	17.31		
1.60	482	584 Shell-Thick	INVSLE Combination	-1.5566	-0.4324	17.31		
1.48	482	584 Shell-Thick	INVSLE Combination	-3.4399	-0.6592	8.47		
1.15	482	584 Shell-Thick	INVSLE Combination	-5.5085	-1.0562	8.47		
1.15	482	584 Shell-Thick	INVSLE Combination	-5.4554	-1.2280	8.07		
1.48	482	584 Shell-Thick	INVSLE Combination	-3.4051	-0.8159	8.07		
2.15	482	584 Shell-Thick	INVSLE Combination	-2.1653	-0.3625	36.50		
1.65	482	584 Shell-Thick	INVSLE Combination	-3.4995	-0.5911	36.50		
1.65	482	584 Shell-Thick	INVSLE Combination	-3.3953	-0.8455	36.23		
2.15	482	584 Shell-Thick	INVSLE Combination	-2.1014	-0.5837	36.23		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 151 di 416
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1.25	482	584 Shell-Thick	INVSLU Combination	-7.1980	-1.4589	11.43		
0.99	482	584 Shell-Thick	INVSLU Combination	-11.4782	-2.3218	11.43		
0.99	482	584 Shell-Thick	INVSLU Combination	-11.4742	-2.4596	10.89		
1.25	482	584 Shell-Thick	INVSLU Combination	-7.1890	-1.6010	10.89		
1.36	483	585 Shell-Thick	INVSLE Combination	-1.5235	-0.2505	17.31		
1.05	483	585 Shell-Thick	INVSLE Combination	-2.4672	-0.4037	17.31		
1.05	483	585 Shell-Thick	INVSLE Combination	-2.4097	-0.5654	17.01		
1.36	483	585 Shell-Thick	INVSLE Combination	-1.4925	-0.3903	17.01		
1.28	483	585 Shell-Thick	INVSLE Combination	-3.3767	-0.6461	8.07		
1.00	483	585 Shell-Thick	INVSLE Combination	-5.4054	-1.0059	8.07		
1.00	483	585 Shell-Thick	INVSLE Combination	-5.3884	-1.1545	7.74		
1.28	483	585 Shell-Thick	INVSLE Combination	-3.3746	-0.7823	7.74		
1.84	483	585 Shell-Thick	INVSLU Combination	-2.0567	-0.3381	36.24		
1.42	483	585 Shell-Thick	INVSLU Combination	-3.3307	-0.5450	36.24		
1.42	483	585 Shell-Thick	INVSLU Combination	-3.2532	-0.7633	36.01		
1.84	483	585 Shell-Thick	INVSLU Combination	-2.0148	-0.5269	36.01		
1.11	483	585 Shell-Thick	INVSLU Combination	-7.1701	-1.4559	10.89		
0.89	483	585 Shell-Thick	INVSLU Combination	-11.4199	-2.2387	10.89		
0.89	483	585 Shell-Thick	INVSLU Combination	-11.4856	-2.3603	10.44		
1.11	483	585 Shell-Thick	INVSLU Combination	-7.2274	-1.5846	10.44		
1.06	484	586 Shell-Thick	INVSLE Combination	-1.4552	-0.1875	17.02		
0.83	484	586 Shell-Thick	INVSLE Combination	-2.3637	-0.3520	17.02		
0.83	484	586 Shell-Thick	INVSLE Combination	-2.3333	-0.4794	16.81		
1.06	484	586 Shell-Thick	INVSLE Combination	-1.4483	-0.2954	16.81		
1.00	484	586 Shell-Thick	INVSLE Combination	-3.3329	-0.5175	7.74		
0.80	484	586 Shell-Thick	INVSLE Combination	-5.3332	-0.9342	7.74		
0.80	484	586 Shell-Thick	INVSLE Combination	-5.3280	-1.0534	7.49		
1.00	484	586 Shell-Thick	INVSLE Combination	-3.3444	-0.6229	7.49		
1.42	484	586 Shell-Thick	INVSLU Combination	-1.9646	-0.2531	36.03		
1.12	484	586 Shell-Thick	INVSLU Combination	-3.1911	-0.4752	36.03		
1.12	484	586 Shell-Thick	INVSLU Combination	-3.1500	-0.6472	35.87		
1.42	484	586 Shell-Thick	INVSLU Combination	-1.9552	-0.3988	35.87		
0.88	484	586 Shell-Thick	INVSLU Combination	-7.1763	-1.1929	10.45		
0.74	484	586 Shell-Thick	INVSLU Combination	-11.4114	-2.1259	10.45		
0.74	484	586 Shell-Thick	INVSLU Combination	-11.4579	-2.2283	10.12		
0.88	484	586 Shell-Thick	INVSLU Combination	-7.2255	-1.2931	10.12		
1.55	486	587 Shell-Thick	INVSLE Combination	-3.1674	-0.5116	21.35		
0.98	486	587 Shell-Thick	INVSLE Combination	-4.5028	-0.7833	21.35		
0.98	486	587 Shell-Thick	INVSLE Combination	-4.3429	-0.9566	20.84		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 152 di 416
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1.55	486	587 Shell-Thick	INVSLE Combination	-3.0436	-0.6550	20.84		
1.36	486	587 Shell-Thick	INVSLE Combination	-5.9540	-1.0593	11.49		
0.87	486	587 Shell-Thick	INVSLE Combination	-8.4455	-1.5834	11.49		
0.87	486	587 Shell-Thick	INVSLE Combination	-8.3561	-1.7290	10.88		
1.36	486	587 Shell-Thick	INVSLE Combination	-5.8794	-1.1928	10.88		
2.10	486	587 Shell-Thick	INVSLE Combination	-4.2760	-0.6906	41.54		
1.32	486	587 Shell-Thick	INVSLE Combination	-6.0788	-1.0574	41.54		
1.32	486	587 Shell-Thick	INVSLE Combination	-5.8629	-1.2914	41.22		
2.10	486	587 Shell-Thick	INVSLE Combination	-4.1089	-0.8843	41.22		
0.96	486	587 Shell-Thick	INVSLE Combination	-11.6581	-2.1805	15.51		
0.66	486	587 Shell-Thick	INVSLE Combination	-16.5160	-3.2212	15.51		
0.66	486	587 Shell-Thick	INVSLE Combination	-16.5711	-3.3101	14.69		
0.96	486	587 Shell-Thick	INVSLE Combination	-11.6841	-2.2937	14.69		
1.53	487	588 Shell-Thick	INVSLE Combination	-3.0247	-0.5055	20.85		
0.97	487	588 Shell-Thick	INVSLE Combination	-4.2907	-0.7506	20.85		
0.97	487	588 Shell-Thick	INVSLE Combination	-4.1185	-0.9225	20.33		
1.53	487	588 Shell-Thick	INVSLE Combination	-2.8904	-0.6461	20.33		
1.37	487	588 Shell-Thick	INVSLE Combination	-5.8723	-1.0706	10.89		
0.88	487	588 Shell-Thick	INVSLE Combination	-8.3070	-1.5699	10.89		
0.88	487	588 Shell-Thick	INVSLE Combination	-8.1976	-1.7184	10.29		
1.37	487	588 Shell-Thick	INVSLE Combination	-5.7822	-1.2032	10.29		
2.07	487	588 Shell-Thick	INVSLE Combination	-4.0833	-0.6824	41.25		
1.30	487	588 Shell-Thick	INVSLE Combination	-5.7925	-1.0133	41.25		
1.30	487	588 Shell-Thick	INVSLE Combination	-5.5600	-1.2454	40.89		
2.07	487	588 Shell-Thick	INVSLE Combination	-3.9021	-0.8722	40.89		
1.03	487	588 Shell-Thick	INVSLE Combination	-11.7013	-2.2272	14.70		
0.70	487	588 Shell-Thick	INVSLE Combination	-16.5281	-3.2471	14.70		
0.70	487	588 Shell-Thick	INVSLE Combination	-16.5472	-3.3477	13.89		
1.03	487	588 Shell-Thick	INVSLE Combination	-11.7015	-2.3437	13.89		
1.48	488	589 Shell-Thick	INVSLE Combination	-2.8702	-0.4984	20.35		
0.93	488	589 Shell-Thick	INVSLE Combination	-4.0676	-0.7142	20.35		
0.93	488	589 Shell-Thick	INVSLE Combination	-3.8900	-0.8804	19.83		
1.48	488	589 Shell-Thick	INVSLE Combination	-2.7305	-0.6334	19.83		
1.34	488	589 Shell-Thick	INVSLE Combination	-5.7733	-1.0898	10.30		
0.86	488	589 Shell-Thick	INVSLE Combination	-8.1491	-1.5449	10.30		
0.86	488	589 Shell-Thick	INVSLE Combination	-8.0318	-1.6911	9.72		
1.34	488	589 Shell-Thick	INVSLE Combination	-5.6761	-1.2195	9.72		
1.99	488	589 Shell-Thick	INVSLE Combination	-3.8748	-0.6729	40.91		
1.26	488	589 Shell-Thick	INVSLE Combination	-5.4912	-0.9641	40.91		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 153 di 416
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1.26	488	589 Shell-Thick	INVSLU Combination	-5.2515	-1.1886	40.54		
1.99	488	589 Shell-Thick	INVSLU Combination	-3.6862	-0.8551	40.54		
1.07	488	589 Shell-Thick	INVSLU Combination	-11.7160	-2.3003	13.90		
0.72	488	589 Shell-Thick	INVSLU Combination	-16.5036	-3.2454	13.90		
0.72	488	589 Shell-Thick	INVSLU Combination	-16.5098	-3.3503	13.12		
1.07	488	589 Shell-Thick	INVSLU Combination	-11.7057	-2.4192	13.12		
1.38	489	590 Shell-Thick	INVSLE Combination	-2.7088	-0.4803	19.85		
0.88	489	590 Shell-Thick	INVSLE Combination	-3.8411	-0.6803	19.85		
0.88	489	590 Shell-Thick	INVSLE Combination	-3.6601	-0.8373	19.36		
1.38	489	590 Shell-Thick	INVSLE Combination	-2.5656	-0.6061	19.36		
1.28	489	590 Shell-Thick	INVSLE Combination	-5.6644	-1.0842	9.72		
0.82	489	590 Shell-Thick	INVSLE Combination	-7.9845	-1.5312	9.72		
0.82	489	590 Shell-Thick	INVSLE Combination	-7.8567	-1.6719	9.19		
1.28	489	590 Shell-Thick	INVSLE Combination	-5.5597	-1.2059	9.19		
1.87	489	590 Shell-Thick	INVSLU Combination	-3.6569	-0.6484	40.57		
1.18	489	590 Shell-Thick	INVSLU Combination	-5.1854	-0.9185	40.57		
1.18	489	590 Shell-Thick	INVSLU Combination	-4.9411	-1.1303	40.19		
1.87	489	590 Shell-Thick	INVSLU Combination	-3.4635	-0.8182	40.19		
1.06	489	590 Shell-Thick	INVSLU Combination	-11.7143	-2.3203	13.13		
0.71	489	590 Shell-Thick	INVSLU Combination	-16.4659	-3.2728	13.13		
0.71	489	590 Shell-Thick	INVSLU Combination	-16.4471	-3.3803	12.40		
1.06	489	590 Shell-Thick	INVSLU Combination	-11.6886	-2.4339	12.40		
1.25	490	591 Shell-Thick	INVSLE Combination	-2.5427	-0.4589	19.37		
0.80	490	591 Shell-Thick	INVSLE Combination	-3.6139	-0.6394	19.37		
0.80	490	591 Shell-Thick	INVSLE Combination	-3.4355	-0.7820	18.93		
1.25	490	591 Shell-Thick	INVSLE Combination	-2.3996	-0.5723	18.93		
1.17	490	591 Shell-Thick	INVSLE Combination	-5.5460	-1.0886	9.19		
0.75	490	591 Shell-Thick	INVSLE Combination	-7.8115	-1.4948	9.19		
0.75	490	591 Shell-Thick	INVSLE Combination	-7.6865	-1.6239	8.70		
1.17	490	591 Shell-Thick	INVSLE Combination	-5.4421	-1.2004	8.70		
1.69	490	591 Shell-Thick	INVSLU Combination	-3.4326	-0.6195	40.21		
1.07	490	591 Shell-Thick	INVSLU Combination	-4.8788	-0.8631	40.21		
1.07	490	591 Shell-Thick	INVSLU Combination	-4.6379	-1.0558	39.85		
1.69	490	591 Shell-Thick	INVSLU Combination	-3.2395	-0.7726	39.85		
1.00	490	591 Shell-Thick	INVSLU Combination	-11.6938	-2.3777	12.41		
0.67	490	591 Shell-Thick	INVSLU Combination	-16.4038	-3.2458	12.41		
0.67	490	591 Shell-Thick	INVSLU Combination	-16.3880	-3.3470	11.75		
1.00	490	591 Shell-Thick	INVSLU Combination	-11.6699	-2.4859	11.75		
1.07	491	592 Shell-Thick	INVSLE Combination	-2.3740	-0.4091	18.94		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 154 di 416
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0.69	491	592 Shell-Thick	INVSLE Combination	-3.3921	-0.6002	18.94		
0.69	491	592 Shell-Thick	INVSLE Combination	-3.2145	-0.7242	18.56		
1.07	491	592 Shell-Thick	INVSLE Combination	-2.2298	-0.5054	18.56		
1.01	491	592 Shell-Thick	INVSLE Combination	-5.4218	-1.0259	8.71		
0.66	491	592 Shell-Thick	INVSLE Combination	-7.6418	-1.4734	8.71		
0.66	491	592 Shell-Thick	INVSLE Combination	-7.4991	-1.5879	8.30		
1.01	491	592 Shell-Thick	INVSLE Combination	-5.3030	-1.1207	8.30		
1.45	491	592 Shell-Thick	INVSLE Combination	-3.2049	-0.5523	39.88		
0.93	491	592 Shell-Thick	INVSLE Combination	-4.5794	-0.8103	39.88		
0.93	491	592 Shell-Thick	INVSLE Combination	-4.3396	-0.9777	39.57		
1.45	491	592 Shell-Thick	INVSLE Combination	-3.0103	-0.6823	39.57		
0.89	491	592 Shell-Thick	INVSLE Combination	-11.6604	-2.2886	11.76		
0.60	491	592 Shell-Thick	INVSLE Combination	-16.3408	-3.2608	11.76		
0.60	491	592 Shell-Thick	INVSLE Combination	-16.2696	-3.3558	11.20		
0.89	491	592 Shell-Thick	INVSLE Combination	-11.5936	-2.3801	11.20		
0.84	492	593 Shell-Thick	INVSLE Combination	-2.1996	-0.3357	18.57		
0.55	492	593 Shell-Thick	INVSLE Combination	-3.1727	-0.5341	18.57		
0.55	492	593 Shell-Thick	INVSLE Combination	-3.0184	-0.6328	18.27		
0.84	492	593 Shell-Thick	INVSLE Combination	-2.0736	-0.4109	18.27		
0.81	492	593 Shell-Thick	INVSLE Combination	-5.2716	-0.9344	8.30		
0.53	492	593 Shell-Thick	INVSLE Combination	-7.4501	-1.3722	8.30		
0.53	492	593 Shell-Thick	INVSLE Combination	-7.3357	-1.4640	7.99		
0.81	492	593 Shell-Thick	INVSLE Combination	-5.1762	-1.0104	7.99		
1.14	492	593 Shell-Thick	INVSLE Combination	-2.9695	-0.4532	39.58		
0.74	492	593 Shell-Thick	INVSLE Combination	-4.2832	-0.7211	39.58		
0.74	492	593 Shell-Thick	INVSLE Combination	-4.0749	-0.8543	39.32		
1.14	492	593 Shell-Thick	INVSLE Combination	-2.7994	-0.5548	39.32		
0.74	492	593 Shell-Thick	INVSLE Combination	-11.5598	-2.1601	11.21		
0.50	492	593 Shell-Thick	INVSLE Combination	-16.2058	-3.0878	11.21		
0.50	492	593 Shell-Thick	INVSLE Combination	-16.1729	-3.1652	10.78		
0.74	492	593 Shell-Thick	INVSLE Combination	-11.5270	-2.2375	10.78		
1.04	494	594 Shell-Thick	INVSLE Combination	-4.6728	-0.8765	23.98		
02	494	594 Shell-Thick	INVSLE Combination	-6.8891	-1.2992	23.98	-5.779E-	
02	494	594 Shell-Thick	INVSLE Combination	-6.5684	-1.3923	23.29	-5.779E-	
1.04	494	594 Shell-Thick	INVSLE Combination	-4.3748	-0.9038	23.29		
0.91	494	594 Shell-Thick	INVSLE Combination	-8.7186	-1.6781	12.89		
02	494	594 Shell-Thick	INVSLE Combination	-12.8957	-2.5201	12.89	-7.755E-	
02	494	594 Shell-Thick	INVSLE Combination	-12.6545	-2.5899	12.10	-7.755E-	
0.91	494	594 Shell-Thick	INVSLE Combination	-8.4887	-1.7155	12.10		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 155 di 416
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1.40	494	594 Shell-Thick	INVSLU Combination	-6.3083	-1.1832	46.67		
02	494	594 Shell-Thick	INVSLU Combination	-9.3003	-1.7539	46.67	-1.735E-	
02	494	594 Shell-Thick	INVSLU Combination	-8.8674	-1.8796	46.20	-1.735E-	
1.40	494	594 Shell-Thick	INVSLU Combination	-5.9060	-1.2202	46.20		
0.66	494	594 Shell-Thick	INVSLU Combination	-17.0000	-3.3189	17.40		
0.10	494	594 Shell-Thick	INVSLU Combination	-25.1909	-5.0192	17.40	-	
0.10	494	594 Shell-Thick	INVSLU Combination	-25.1123	-5.0414	16.33	-	
0.66	494	594 Shell-Thick	INVSLU Combination	-16.9096	-3.3769	16.33		
1.03	495	595 Shell-Thick	INVSLE Combination	-4.4034	-0.8329	23.34		
02	495	595 Shell-Thick	INVSLE Combination	-6.4909	-1.2185	23.34	-6.057E-	
02	495	595 Shell-Thick	INVSLE Combination	-6.1606	-1.3118	22.65	-6.057E-	
1.03	495	595 Shell-Thick	INVSLE Combination	-4.0965	-0.8583	22.65		
0.92	495	595 Shell-Thick	INVSLE Combination	-8.5193	-1.6555	12.15		
02	495	595 Shell-Thick	INVSLE Combination	-12.5849	-2.4552	12.15	-7.863E-	
02	495	595 Shell-Thick	INVSLE Combination	-12.3287	-2.5275	11.37	-7.863E-	
0.92	495	595 Shell-Thick	INVSLE Combination	-8.2759	-1.6910	11.37		
1.39	495	595 Shell-Thick	INVSLU Combination	-5.9446	-1.1244	46.25		
02	495	595 Shell-Thick	INVSLU Combination	-8.7627	-1.6450	46.25	-2.359E-	
02	495	595 Shell-Thick	INVSLU Combination	-8.3168	-1.7709	45.74	-2.359E-	
1.39	495	595 Shell-Thick	INVSLU Combination	-5.5302	-1.1587	45.74		
0.71	495	595 Shell-Thick	INVSLU Combination	-16.9443	-3.3392	16.40		
0.11	495	595 Shell-Thick	INVSLU Combination	-25.0591	-4.9867	16.40	-	
0.11	495	595 Shell-Thick	INVSLU Combination	-24.9545	-5.0161	15.35	-	
0.71	495	595 Shell-Thick	INVSLU Combination	-16.8310	-3.3955	15.35		
0.99	496	596 Shell-Thick	INVSLE Combination	-4.1231	-0.7839	22.70		
02	496	596 Shell-Thick	INVSLE Combination	-6.0843	-1.1378	22.70	-6.164E-	
02	496	596 Shell-Thick	INVSLE Combination	-5.7522	-1.2295	22.02	-6.164E-	
0.99	496	596 Shell-Thick	INVSLE Combination	-3.8147	-0.8067	22.02		
0.91	496	596 Shell-Thick	INVSLE Combination	-8.3042	-1.6202	11.42		
02	496	596 Shell-Thick	INVSLE Combination	-12.2586	-2.3890	11.42	-7.802E-	
02	496	596 Shell-Thick	INVSLE Combination	-11.9991	-2.4626	10.66	-7.802E-	
0.91	496	596 Shell-Thick	INVSLE Combination	-8.0591	-1.6523	10.66		
1.34	496	596 Shell-Thick	INVSLU Combination	-5.5662	-1.0583	45.80		
02	496	596 Shell-Thick	INVSLU Combination	-8.2138	-1.5361	45.80	-2.811E-	
02	496	596 Shell-Thick	INVSLU Combination	-7.7655	-1.6598	45.26	-2.811E-	
1.34	496	596 Shell-Thick	INVSLU Combination	-5.1498	-1.0890	45.26		
0.73	496	596 Shell-Thick	INVSLU Combination	-16.8626	-3.3319	15.42		
0.11	496	596 Shell-Thick	INVSLU Combination	-24.8970	-4.9499	15.42	-	
0.11	496	596 Shell-Thick	INVSLU Combination	-24.7862	-4.9867	14.40	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 156 di 416
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0.73	496	596 Shell-Thick	INVS LU Combination	-16.7473	-3.3831	14.40		
0.93	497	597 Shell-Thick	INVS LE Combination	-3.8394	-0.7361	22.07		
02	497	597 Shell-Thick	INVS LE Combination	-5.6793	-1.0595	22.07	-5.964E-	
02	497	597 Shell-Thick	INVS LE Combination	-5.3516	-1.1467	21.41	-5.964E-	
0.93	497	597 Shell-Thick	INVS LE Combination	-3.5348	-0.7562	21.41		
0.87	497	597 Shell-Thick	INVS LE Combination	-8.0872	-1.5963	10.71		
02	497	597 Shell-Thick	INVS LE Combination	-11.9324	-2.3258	10.71	-7.545E-	
02	497	597 Shell-Thick	INVS LE Combination	-11.6811	-2.3969	10.00	-7.545E-	
0.87	497	597 Shell-Thick	INVS LE Combination	-7.8503	-1.6260	10.00		
1.26	497	597 Shell-Thick	INVS LU Combination	-5.1832	-0.9937	45.31		
02	497	597 Shell-Thick	INVS LU Combination	-7.6671	-1.4303	45.31	-2.727E-	
02	497	597 Shell-Thick	INVS LU Combination	-7.2247	-1.5481	44.78	-2.727E-	
1.26	497	597 Shell-Thick	INVS LU Combination	-4.7719	-1.0208	44.78		
0.73	497	597 Shell-Thick	INVS LU Combination	-16.7823	-3.3571	14.47		
0.10	497	597 Shell-Thick	INVS LU Combination	-24.7322	-4.9179	14.47	-	
0.10	497	597 Shell-Thick	INVS LU Combination	-24.6374	-4.9560	13.50	-	
0.73	497	597 Shell-Thick	INVS LU Combination	-16.6839	-3.4067	13.50		
0.85	498	598 Shell-Thick	INVS LE Combination	-3.5555	-0.6789	21.47		
02	498	598 Shell-Thick	INVS LE Combination	-5.2828	-0.9839	21.47	-5.709E-	
02	498	598 Shell-Thick	INVS LE Combination	-4.9613	-1.0650	20.86	-5.709E-	
0.85	498	598 Shell-Thick	INVS LE Combination	-3.2563	-0.6950	20.86		
0.80	498	598 Shell-Thick	INVS LE Combination	-7.8733	-1.5497	10.05		
02	498	598 Shell-Thick	INVS LE Combination	-11.6166	-2.2653	10.05	-7.183E-	
02	498	598 Shell-Thick	INVS LE Combination	-11.3781	-2.3336	9.40	-7.183E-	
0.80	498	598 Shell-Thick	INVS LE Combination	-7.6499	-1.5740	9.40		
1.14	498	598 Shell-Thick	INVS LU Combination	-4.8000	-0.9166	44.84		
02	498	598 Shell-Thick	INVS LU Combination	-7.1318	-1.3282	44.84	-2.692E-	
02	498	598 Shell-Thick	INVS LU Combination	-6.6977	-1.4377	44.33	-2.692E-	
1.14	498	598 Shell-Thick	INVS LU Combination	-4.3961	-0.9382	44.33		
0.69	498	598 Shell-Thick	INVS LU Combination	-16.7115	-3.3320	13.56		
02	498	598 Shell-Thick	INVS LU Combination	-24.5814	-4.8884	13.56	-9.698E-	
02	498	598 Shell-Thick	INVS LU Combination	-24.5128	-4.9304	12.68	-9.698E-	
0.69	498	598 Shell-Thick	INVS LU Combination	-16.6434	-3.3734	12.68		
0.73	499	599 Shell-Thick	INVS LE Combination	-3.2730	-0.6205	20.90		
02	499	599 Shell-Thick	INVS LE Combination	-4.8991	-0.9120	20.90	-5.229E-	
02	499	599 Shell-Thick	INVS LE Combination	-4.5798	-0.9838	20.37	-5.229E-	
0.73	499	599 Shell-Thick	INVS LE Combination	-2.9743	-0.6321	20.37		
0.70	499	599 Shell-Thick	INVS LE Combination	-7.6714	-1.5195	9.44		
02	499	599 Shell-Thick	INVS LE Combination	-11.3212	-2.2111	9.44	-6.698E-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 157 di 416
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02	499	599 Shell-Thick	INVSLE Combination	-11.0946	-2.2720	8.87	-6.698E-
0.70	499	599 Shell-Thick	INVSLE Combination	-7.4588	-1.5396	8.87	
0.99	499	599 Shell-Thick	INVSLE Combination	-4.4186	-0.8377	44.37	
02	499	599 Shell-Thick	INVSLE Combination	-6.6138	-1.2312	44.37	-2.223E-
02	499	599 Shell-Thick	INVSLE Combination	-6.1827	-1.3281	43.91	-2.223E-
0.99	499	599 Shell-Thick	INVSLE Combination	-4.0153	-0.8533	43.91	
0.63	499	599 Shell-Thick	INVSLE Combination	-16.6747	-3.3597	12.74	
02	499	599 Shell-Thick	INVSLE Combination	-24.4669	-4.8704	12.74	-9.043E-
02	499	599 Shell-Thick	INVSLE Combination	-24.4300	-4.9090	11.98	-9.043E-
0.63	499	599 Shell-Thick	INVSLE Combination	-16.6384	-3.3974	11.98	
0.58	500	600 Shell-Thick	INVSLE Combination	-2.9813	-0.5266	20.41	
02	500	600 Shell-Thick	INVSLE Combination	-4.5230	-0.8406	20.41	-5.176E-
02	500	600 Shell-Thick	INVSLE Combination	-4.1846	-0.9010	19.98	-5.176E-
0.58	500	600 Shell-Thick	INVSLE Combination	-2.6621	-0.5308	19.98	
0.56	500	600 Shell-Thick	INVSLE Combination	-7.4650	-1.4046	8.91	
02	500	600 Shell-Thick	INVSLE Combination	-11.0380	-2.1552	8.91	-6.324E-
02	500	600 Shell-Thick	INVSLE Combination	-10.7877	-2.2100	8.45	-6.324E-
0.56	500	600 Shell-Thick	INVSLE Combination	-7.2304	-1.4136	8.45	
0.78	500	600 Shell-Thick	INVSLE Combination	-4.0248	-0.7109	43.97	
02	500	600 Shell-Thick	INVSLE Combination	-6.1060	-1.1347	43.97	-2.825E-
02	500	600 Shell-Thick	INVSLE Combination	-5.6492	-1.2163	43.58	-2.825E-
0.78	500	600 Shell-Thick	INVSLE Combination	-3.5939	-0.7166	43.58	
0.52	500	600 Shell-Thick	INVSLE Combination	-16.6427	-3.2016	12.02	
02	500	600 Shell-Thick	INVSLE Combination	-24.3739	-4.8462	12.02	-8.538E-
02	500	600 Shell-Thick	INVSLE Combination	-24.3040	-4.8894	11.41	-8.538E-
0.52	500	600 Shell-Thick	INVSLE Combination	-16.5814	-3.2205	11.41	
02	502	601 Shell-Thick	INVSLE Combination	-4.0729	-0.7568	-8.53	-4.544E-
0.25	502	601 Shell-Thick	INVSLE Combination	-3.0701	-0.5148	-8.53	
0.25	502	601 Shell-Thick	INVSLE Combination	-2.6633	-0.5088	-8.25	
02	502	601 Shell-Thick	INVSLE Combination	-3.6360	-0.7850	-8.25	-4.544E-
02	502	601 Shell-Thick	INVSLE Combination	-10.7393	-2.0964	-20.36	-5.108E-
0.25	502	601 Shell-Thick	INVSLE Combination	-8.3456	-1.5616	-20.36	
0.25	502	601 Shell-Thick	INVSLE Combination	-7.9896	-1.5582	-20.08	
02	502	601 Shell-Thick	INVSLE Combination	-10.3570	-2.1229	-20.08	-5.108E-
02	502	601 Shell-Thick	INVSLE Combination	-5.4984	-1.0216	-11.52	-3.389E-
0.34	502	601 Shell-Thick	INVSLE Combination	-4.1447	-0.6949	-11.52	
0.34	502	601 Shell-Thick	INVSLE Combination	-3.5955	-0.6869	-11.13	
02	502	601 Shell-Thick	INVSLE Combination	-4.9086	-1.0598	-11.13	-3.389E-
02	502	601 Shell-Thick	INVSLE Combination	-24.3852	-4.8386	-44.57	-6.896E-
02							

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 158 di 416
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0.25	502	601 Shell-Thick	INVSLE Combination	-19.1443	-3.7044	-44.57		
0.25	502	601 Shell-Thick	INVSLE Combination	-18.8921	-3.7062	-44.30		
02	502	601 Shell-Thick	INVSLE Combination	-24.1145	-4.8613	-44.30	-6.896E-	
02	503	602 Shell-Thick	INVSLE Combination	-3.5902	-0.6346	-8.26	-7.327E-	
02	503	602 Shell-Thick	INVSLE Combination	-2.6120	-0.1737	-8.26	7.085E-	
02	503	602 Shell-Thick	INVSLE Combination	-1.8850	-0.1575	-8.12	7.085E-	
02	503	602 Shell-Thick	INVSLE Combination	-2.8351	-0.6505	-8.12	-7.327E-	
0.11	503	602 Shell-Thick	INVSLE Combination	-10.2619	-1.9264	-20.13	-	
02	503	602 Shell-Thick	INVSLE Combination	-7.8778	-0.7202	-20.13	4.028E-	
02	503	602 Shell-Thick	INVSLE Combination	-6.7749	-0.6901	-19.98	4.028E-	
0.11	503	602 Shell-Thick	INVSLE Combination	-9.1131	-1.9486	-19.98	-	
02	503	602 Shell-Thick	INVSLE Combination	-4.8468	-0.8567	-11.15	-9.892E-	
02	503	602 Shell-Thick	INVSLE Combination	-3.5262	-0.2344	-11.15	9.565E-	
02	503	602 Shell-Thick	INVSLE Combination	-2.5447	-0.2126	-10.96	9.565E-	
02	503	602 Shell-Thick	INVSLE Combination	-3.8274	-0.8782	-10.96	-9.892E-	
0.19	503	602 Shell-Thick	INVSLE Combination	-23.9184	-4.5706	-44.42	-	
02	503	602 Shell-Thick	INVSLE Combination	-18.6566	-1.8391	-44.42	-2.230E-	
02	503	602 Shell-Thick	INVSLE Combination	-16.7843	-1.7803	-44.26	-2.230E-	
0.19	503	602 Shell-Thick	INVSLE Combination	-21.9638	-4.6058	-44.26	-	
0.24	504	603 Shell-Thick	INVSLE Combination	-3.3288	-0.5592	-8.20		
0.46	504	603 Shell-Thick	INVSLE Combination	-2.3642	-0.2467	-8.20		
0.46	504	603 Shell-Thick	INVSLE Combination	-2.2049	-0.2726	-7.99		
0.24	504	603 Shell-Thick	INVSLE Combination	-3.1454	-0.6125	-7.99		
0.24	504	603 Shell-Thick	INVSLE Combination	-8.3640	-1.5510	-19.04		
0.45	504	603 Shell-Thick	INVSLE Combination	-6.1223	-0.8022	-19.04		
0.45	504	603 Shell-Thick	INVSLE Combination	-5.9302	-0.8264	-18.83		
0.24	504	603 Shell-Thick	INVSLE Combination	-8.1469	-1.6039	-18.83		
0.33	504	603 Shell-Thick	INVSLE Combination	-4.4939	-0.7549	-11.06		
0.62	504	603 Shell-Thick	INVSLE Combination	-3.1916	-0.3331	-11.06		
0.62	504	603 Shell-Thick	INVSLE Combination	-2.9766	-0.3681	-10.78		
0.33	504	603 Shell-Thick	INVSLE Combination	-4.2463	-0.8269	-10.78		
0.23	504	603 Shell-Thick	INVSLE Combination	-18.6709	-3.5813	-41.22		
0.42	504	603 Shell-Thick	INVSLE Combination	-13.8149	-1.9391	-41.22		
0.42	504	603 Shell-Thick	INVSLE Combination	-13.5556	-1.9601	-41.04		
0.23	504	603 Shell-Thick	INVSLE Combination	-18.3846	-3.6330	-41.04		
0.17	505	604 Shell-Thick	INVSLE Combination	-3.0948	-0.3418	-7.98		
0.20	505	604 Shell-Thick	INVSLE Combination	-2.1515	-0.0230	-7.98		
0.20	505	604 Shell-Thick	INVSLE Combination	-2.3603	-0.0333	-7.93		
0.17	505	604 Shell-Thick	INVSLE Combination	-3.2905	-0.3670	-7.93		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 159 di 416
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0.13	505	604 Shell-Thick	INVSLE Combination	-8.0137	-0.9028	-18.83		
0.18	505	604 Shell-Thick	INVSLE Combination	-5.7936	-0.1790	-18.83		
0.18	505	604 Shell-Thick	INVSLE Combination	-6.5386	-0.1941	-18.80		
0.13	505	604 Shell-Thick	INVSLE Combination	-8.7487	-0.9295	-18.80		
0.26	505	604 Shell-Thick	INVSLE Combination	-4.1779	-0.4614	-10.77		
0.27	505	604 Shell-Thick	INVSLE Combination	-2.9045	-0.0311	-10.77		
0.27	505	604 Shell-Thick	INVSLE Combination	-3.1864	-0.0449	-10.71		
0.26	505	604 Shell-Thick	INVSLE Combination	-4.4421	-0.4955	-10.71		
0.18	505	604 Shell-Thick	INVSLE Combination	-18.0825	-2.0512	-41.02		
0.23	505	604 Shell-Thick	INVSLE Combination	-13.2489	-0.4983	-41.02		
0.23	505	604 Shell-Thick	INVSLE Combination	-15.0915	-0.5234	-41.05		
0.18	505	604 Shell-Thick	INVSLE Combination	-19.9213	-2.0807	-41.05		
0.47	506	605 Shell-Thick	INVSLE Combination	-2.6360	-0.2992	-7.75		
0.61	506	605 Shell-Thick	INVSLE Combination	-1.7244	-0.1390	-7.75		
0.61	506	605 Shell-Thick	INVSLE Combination	-1.7816	-0.1902	-7.60		
0.47	506	605 Shell-Thick	INVSLE Combination	-2.6768	-0.3689	-7.60		
0.46	506	605 Shell-Thick	INVSLE Combination	-6.2329	-0.8462	-17.59		
0.59	506	605 Shell-Thick	INVSLE Combination	-4.1639	-0.4363	-17.59		
0.59	506	605 Shell-Thick	INVSLE Combination	-4.4037	-0.4903	-17.47		
0.46	506	605 Shell-Thick	INVSLE Combination	-6.4631	-0.9111	-17.47		
0.63	506	605 Shell-Thick	INVSLE Combination	-3.5586	-0.4039	-10.46		
0.83	506	605 Shell-Thick	INVSLE Combination	-2.3279	-0.1877	-10.46		
0.83	506	605 Shell-Thick	INVSLE Combination	-2.4051	-0.2567	-10.26		
0.63	506	605 Shell-Thick	INVSLE Combination	-3.6137	-0.4980	-10.26		
0.48	506	605 Shell-Thick	INVSLE Combination	-13.5957	-1.9659	-37.74		
0.54	506	605 Shell-Thick	INVSLE Combination	-9.1574	-1.0449	-37.74		
0.54	506	605 Shell-Thick	INVSLE Combination	-9.7710	-1.1046	-37.69		
0.48	506	605 Shell-Thick	INVSLE Combination	-14.2133	-2.0210	-37.69		
0.16	507	606 Shell-Thick	INVSLE Combination	-2.6347	-0.0931	-7.59		
0.23	507	606 Shell-Thick	INVSLE Combination	-1.7394	-0.0444	-7.59		
0.23	507	606 Shell-Thick	INVSLE Combination	-1.7846	-0.0595	-7.52		
0.16	507	606 Shell-Thick	INVSLE Combination	-2.6684	-0.1214	-7.52		
0.14	507	606 Shell-Thick	INVSLE Combination	-6.3617	-0.2299	-17.44		
0.21	507	606 Shell-Thick	INVSLE Combination	-4.3085	-0.1887	-17.44		
0.21	507	606 Shell-Thick	INVSLE Combination	-4.4800	-0.2046	-17.37		
0.14	507	606 Shell-Thick	INVSLE Combination	-6.5258	-0.2543	-17.37		
0.22	507	606 Shell-Thick	INVSLE Combination	-3.5568	-0.1257	-10.24		
0.30	507	606 Shell-Thick	INVSLE Combination	-2.3481	-0.0599	-10.24		
0.30	507	606 Shell-Thick	INVSLE Combination	-2.4092	-0.0803	-10.16		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 160 di 416
0.22	507	606 Shell-Thick	INVSLU Combination	-3.6023	-0.1639	-10.16		
0.11	507	606 Shell-Thick	INVSLU Combination	-13.9907	-0.5099	-37.61		
0.19	507	606 Shell-Thick	INVSLU Combination	-9.5674	-0.4842	-37.61		
0.19	507	606 Shell-Thick	INVSLU Combination	-9.9974	-0.5017	-37.53		
0.11	507	606 Shell-Thick	INVSLU Combination	-14.4218	-0.5262	-37.53		
0.60	508	607 Shell-Thick	INVSLE Combination	-1.9521	-0.1661	-7.21		
0.73	508	607 Shell-Thick	INVSLE Combination	-1.1039	-0.0920	-7.21		
0.73	508	607 Shell-Thick	INVSLE Combination	-1.1480	-0.1588	-7.08		
0.60	508	607 Shell-Thick	INVSLE Combination	-1.9823	-0.2488	-7.08		
0.57	508	607 Shell-Thick	INVSLE Combination	-4.3705	-0.4520	-16.07		
0.69	508	607 Shell-Thick	INVSLE Combination	-2.4814	-0.2608	-16.07		
0.69	508	607 Shell-Thick	INVSLE Combination	-2.5795	-0.3272	-15.95		
0.57	508	607 Shell-Thick	INVSLE Combination	-4.4607	-0.5273	-15.95		
0.81	508	607 Shell-Thick	INVSLE Combination	-2.6353	-0.2242	-9.73		
0.99	508	607 Shell-Thick	INVSLE Combination	-1.4903	-0.1242	-9.73		
0.99	508	607 Shell-Thick	INVSLE Combination	-1.5499	-0.2144	-9.56		
0.81	508	607 Shell-Thick	INVSLE Combination	-2.6761	-0.3358	-9.56		
0.50	508	607 Shell-Thick	INVSLE Combination	-9.3209	-1.0372	-34.21		
0.61	508	607 Shell-Thick	INVSLE Combination	-5.3011	-0.6063	-34.21		
0.61	508	607 Shell-Thick	INVSLE Combination	-5.5096	-0.6717	-34.11		
0.50	508	607 Shell-Thick	INVSLE Combination	-9.5338	-1.0975	-34.11		
0.22	509	608 Shell-Thick	INVSLE Combination	-1.9515	-0.0804	-7.08		
0.27	509	608 Shell-Thick	INVSLE Combination	-1.1164	-0.0147	-7.08		
0.27	509	608 Shell-Thick	INVSLE Combination	-1.1939	-0.0370	-7.03		
0.22	509	608 Shell-Thick	INVSLE Combination	-2.0200	-0.1130	-7.03		
0.21	509	608 Shell-Thick	INVSLE Combination	-4.3991	-0.2030	-15.95		
0.26	509	608 Shell-Thick	INVSLE Combination	-2.5232	-0.0623	-15.95		
0.26	509	608 Shell-Thick	INVSLE Combination	-2.7150	-0.0876	-15.90		
0.21	509	608 Shell-Thick	INVSLE Combination	-4.5892	-0.2303	-15.90		
0.30	509	608 Shell-Thick	INVSLE Combination	-2.6345	-0.1086	-9.55		
0.36	509	608 Shell-Thick	INVSLE Combination	-1.5071	-0.0199	-9.55		
0.36	509	608 Shell-Thick	INVSLE Combination	-1.6118	-0.0500	-9.49		
0.30	509	608 Shell-Thick	INVSLE Combination	-2.7270	-0.1525	-9.49		
0.19	509	608 Shell-Thick	INVSLE Combination	-9.4094	-0.4539	-34.11		
0.23	509	608 Shell-Thick	INVSLE Combination	-5.4028	-0.1596	-34.11		
0.23	509	608 Shell-Thick	INVSLE Combination	-5.8285	-0.1913	-34.07		
0.19	509	608 Shell-Thick	INVSLE Combination	-9.8482	-0.4705	-34.07		
0.72	510	609 Shell-Thick	INVSLE Combination	-1.2211	-0.1045	-6.59		
0.83	510	609 Shell-Thick	INVSLE Combination	-0.4456	-0.0503	-6.59		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 162 di 416
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02	512	1 Shell-Thick	INVS LU Combination	-9.9951	-1.9043	-19.08	-1.477E-
0.91	512	1 Shell-Thick	INVS LU Combination	-7.7858	-1.4717	-19.08	
0.91	512	1 Shell-Thick	INVS LU Combination	-7.3023	-1.5137	-17.78	
0.11	512	1 Shell-Thick	INVS LU Combination	-25.3666	-5.0868	-47.84	-
0.11	512	1 Shell-Thick	INVS LU Combination	-25.4105	-5.0686	-48.36	-
0.40	512	1 Shell-Thick	INVS LU Combination	-19.7654	-3.8986	-48.36	
0.40	512	1 Shell-Thick	INVS LU Combination	-19.6782	-3.9376	-47.84	
0.61	513	2 Shell-Thick	INVS LE Combination	-5.3324	-1.1544	-12.08	
0.61	513	2 Shell-Thick	INVS LE Combination	-5.5756	-1.0034	-12.89	
1.25	513	2 Shell-Thick	INVS LE Combination	-4.0813	-0.6856	-12.89	
1.25	513	2 Shell-Thick	INVS LE Combination	-3.8856	-0.8144	-12.08	
0.54	513	2 Shell-Thick	INVS LE Combination	-9.9378	-2.0472	-22.47	
0.54	513	2 Shell-Thick	INVS LE Combination	-10.0757	-1.9222	-23.14	
1.07	513	2 Shell-Thick	INVS LE Combination	-7.3806	-1.3355	-23.14	
1.07	513	2 Shell-Thick	INVS LE Combination	-7.2608	-1.4522	-22.47	
0.83	513	2 Shell-Thick	INVS LU Combination	-7.1988	-1.5584	-16.30	
0.83	513	2 Shell-Thick	INVS LU Combination	-7.5270	-1.3546	-17.40	
1.69	513	2 Shell-Thick	INVS LU Combination	-5.5098	-0.9256	-17.40	
1.69	513	2 Shell-Thick	INVS LU Combination	-5.2456	-1.0994	-16.30	
0.40	513	2 Shell-Thick	INVS LU Combination	-19.3646	-3.8749	-43.73	
0.40	513	2 Shell-Thick	INVS LU Combination	-19.2871	-3.8030	-44.11	
0.69	513	2 Shell-Thick	INVS LU Combination	-14.1340	-2.6656	-44.11	
0.69	513	2 Shell-Thick	INVS LU Combination	-14.1696	-2.7576	-43.73	
1.20	514	3 Shell-Thick	INVS LE Combination	-3.8350	-0.8460	-10.98	
1.20	514	3 Shell-Thick	INVS LE Combination	-3.9438	-0.6164	-11.67	
1.74	514	3 Shell-Thick	INVS LE Combination	-2.5901	-0.3087	-11.67	
1.74	514	3 Shell-Thick	INVS LE Combination	-2.5207	-0.5199	-10.98	
1.04	514	3 Shell-Thick	INVS LE Combination	-7.1487	-1.4569	-20.39	
1.04	514	3 Shell-Thick	INVS LE Combination	-7.1723	-1.2666	-20.94	
1.46	514	3 Shell-Thick	INVS LE Combination	-4.7317	-0.7107	-20.94	
1.46	514	3 Shell-Thick	INVS LE Combination	-4.7201	-0.8956	-20.39	
1.62	514	3 Shell-Thick	INVS LU Combination	-5.1772	-1.1421	-14.83	
1.62	514	3 Shell-Thick	INVS LU Combination	-5.3241	-0.8322	-15.75	
2.34	514	3 Shell-Thick	INVS LU Combination	-3.4967	-0.4168	-15.75	
2.34	514	3 Shell-Thick	INVS LU Combination	-3.4029	-0.7018	-14.83	
0.70	514	3 Shell-Thick	INVS LU Combination	-13.9317	-2.7075	-39.66	
0.70	514	3 Shell-Thick	INVS LU Combination	-13.7809	-2.5976	-39.92	
0.91	514	3 Shell-Thick	INVS LU Combination	-9.1153	-1.5336	-39.92	
0.91	514	3 Shell-Thick	INVS LU Combination	-9.2220	-1.6646	-39.66	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 163 di 416
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1.69	515	4 Shell-Thick	INVSLE Combination	-2.4919	-0.5501	-9.89		
1.69	515	4 Shell-Thick	INVSLE Combination	-2.5001	-0.2547	-10.46		
2.14	515	4 Shell-Thick	INVSLE Combination	-1.2847	0.0429	-10.46		
2.14	515	4 Shell-Thick	INVSLE Combination	-1.3096	-0.2371	-9.89		
1.44	515	4 Shell-Thick	INVSLE Combination	-4.6419	-0.9032	-18.34		
1.44	515	4 Shell-Thick	INVSLE Combination	-4.5933	-0.6598	-18.78		
1.78	515	4 Shell-Thick	INVSLE Combination	-2.4023	-0.1261	-18.78		
1.78	515	4 Shell-Thick	INVSLE Combination	-2.4600	-0.3653	-18.34		
2.29	515	4 Shell-Thick	INVSLE Combination	-3.3641	-0.7427	-13.35		
2.29	515	4 Shell-Thick	INVSLE Combination	-3.3751	-0.3439	-14.12		
2.89	515	4 Shell-Thick	INVSLE Combination	-1.7344	0.0579	-14.12		
2.89	515	4 Shell-Thick	INVSLE Combination	-1.7680	-0.3200	-13.35		
0.91	515	4 Shell-Thick	INVSLE Combination	-9.0427	-1.6258	-35.64		
0.91	515	4 Shell-Thick	INVSLE Combination	-8.8779	-1.4890	-35.80		
1.04	515	4 Shell-Thick	INVSLE Combination	-4.6898	-0.4719	-35.80		
1.04	515	4 Shell-Thick	INVSLE Combination	-4.8148	-0.6277	-35.64		
2.10	516	5 Shell-Thick	INVSLE Combination	-1.3014	-0.2660	-8.80		
2.10	516	5 Shell-Thick	INVSLE Combination	-1.2323	0.0839	-9.28		
2.47	516	5 Shell-Thick	INVSLE Combination	-0.1538	0.4021	-9.28		
2.47	516	5 Shell-Thick	INVSLE Combination	-0.2500	0.1192	-8.80		
1.76	516	5 Shell-Thick	INVSLE Combination	-2.4189	-0.3757	-16.30		
1.76	516	5 Shell-Thick	INVSLE Combination	-2.3167	-0.0903	-16.65		
2.03	516	5 Shell-Thick	INVSLE Combination	-0.3728	0.3630	-16.65		
2.03	516	5 Shell-Thick	INVSLE Combination	-0.4805	0.0258	-16.30		
2.84	516	5 Shell-Thick	INVSLE Combination	-1.7569	-0.3590	-11.89		
2.84	516	5 Shell-Thick	INVSLE Combination	-1.6637	0.1133	-12.52		
3.34	516	5 Shell-Thick	INVSLE Combination	-0.2076	0.5487	-12.52		
3.34	516	5 Shell-Thick	INVSLE Combination	-0.3375	0.3103	-11.89		
1.05	516	5 Shell-Thick	INVSLE Combination	-4.7064	-0.6002	-31.66		
1.05	516	5 Shell-Thick	INVSLE Combination	-4.5362	-0.4470	-31.75		
1.12	516	5 Shell-Thick	INVSLE Combination	-0.8212	0.4821	-31.75		
1.12	516	5 Shell-Thick	INVSLE Combination	-0.9522	0.0348	-31.66		
2.44	517	6 Shell-Thick	INVSLE Combination	-0.2551	0.1071	-7.72		
2.44	517	6 Shell-Thick	INVSLE Combination	-0.1329	0.4255	-8.11		
2.74	517	6 Shell-Thick	INVSLE Combination	1.3650	0.8805	-8.11		
2.74	517	6 Shell-Thick	INVSLE Combination	1.2361	0.5639	-7.72		
2.01	517	6 Shell-Thick	INVSLE Combination	-0.4607	-0.0013	-14.29		
2.01	517	6 Shell-Thick	INVSLE Combination	-0.3360	0.3932	-14.56		
2.22	517	6 Shell-Thick	INVSLE Combination	0.8110	0.6519	-14.56		

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2.22	517	6 Shell-Thick	INVSLE Combination	0.6661	0.2680	-14.29		
3.30	517	6 Shell-Thick	INVSLE Combination	-0.3444	0.3288	-10.43		
3.30	517	6 Shell-Thick	INVSLE Combination	-0.1794	0.5793	-10.95		
3.71	517	6 Shell-Thick	INVSLE Combination	2.4989	1.3482	-10.95		
3.71	517	6 Shell-Thick	INVSLE Combination	2.4028	1.1695	-10.43		
1.12	517	6 Shell-Thick	INVSLE Combination	-0.8815	-0.0017	-27.72		
1.12	517	6 Shell-Thick	INVSLE Combination	-0.7518	0.4916	-27.75		
1.15	517	6 Shell-Thick	INVSLE Combination	1.0949	0.8801	-27.75		
1.15	517	6 Shell-Thick	INVSLE Combination	0.8992	0.3618	-27.72		
2.72	518	7 Shell-Thick	INVSLE Combination	1.2299	0.5505	-6.65		
2.72	518	7 Shell-Thick	INVSLE Combination	1.3732	0.8943	-6.96		
2.96	518	7 Shell-Thick	INVSLE Combination	2.8335	1.2967	-6.96		
2.96	518	7 Shell-Thick	INVSLE Combination	2.6881	0.9538	-6.65		
2.21	518	7 Shell-Thick	INVSLE Combination	0.6489	0.2430	-12.28		
2.21	518	7 Shell-Thick	INVSLE Combination	0.8112	0.6735	-12.49		
2.37	518	7 Shell-Thick	INVSLE Combination	1.6217	0.9048	-12.49		
2.37	518	7 Shell-Thick	INVSLE Combination	1.4411	0.4828	-12.28		
3.67	518	7 Shell-Thick	INVSLE Combination	2.4193	1.1798	-8.97		
3.67	518	7 Shell-Thick	INVSLE Combination	2.5236	1.3462	-9.39		
4.00	518	7 Shell-Thick	INVSLE Combination	5.3140	2.0989	-9.39		
4.00	518	7 Shell-Thick	INVSLE Combination	5.2407	1.9178	-8.97		
1.16	518	7 Shell-Thick	INVSLE Combination	0.8760	0.3281	-23.82		
1.16	518	7 Shell-Thick	INVSLE Combination	1.0951	0.9092	-23.81		
1.16	518	7 Shell-Thick	INVSLE Combination	2.1893	1.2215	-23.81		
1.16	518	7 Shell-Thick	INVSLE Combination	1.9455	0.6518	-23.82		
2.94	519	8 Shell-Thick	INVSLE Combination	2.6743	0.9405	-5.58		
2.94	519	8 Shell-Thick	INVSLE Combination	2.8146	1.3035	-5.82		
3.13	519	8 Shell-Thick	INVSLE Combination	4.0377	1.6540	-5.82		
3.13	519	8 Shell-Thick	INVSLE Combination	3.8957	1.2917	-5.58		
2.36	519	8 Shell-Thick	INVSLE Combination	1.4196	0.4606	-10.30		
2.36	519	8 Shell-Thick	INVSLE Combination	1.6059	0.9196	-10.45		
2.48	519	8 Shell-Thick	INVSLE Combination	2.2848	1.1212	-10.45		
2.48	519	8 Shell-Thick	INVSLE Combination	2.0836	0.6692	-10.30		
3.97	519	8 Shell-Thick	INVSLE Combination	5.2427	1.9228	-7.53		
3.97	519	8 Shell-Thick	INVSLE Combination	5.2886	2.0893	-7.86		
4.23	519	8 Shell-Thick	INVSLE Combination	7.6257	2.7445	-7.86		
4.23	519	8 Shell-Thick	INVSLE Combination	7.6048	2.5660	-7.53		
1.16	519	8 Shell-Thick	INVSLE Combination	1.9165	0.6218	-19.96		
1.16	519	8 Shell-Thick	INVSLE Combination	2.1680	1.2415	-19.93		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 165 di 416
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1.14	519	8 Shell-Thick	INVSLE Combination	3.0844	1.5137	-19.93		
1.14	519	8 Shell-Thick	INVSLE Combination	2.8129	0.9034	-19.96		
3.11	520	9 Shell-Thick	INVSLE Combination	3.8689	1.2789	-4.51		
3.11	520	9 Shell-Thick	INVSLE Combination	4.0107	1.6560	-4.70		
3.26	520	9 Shell-Thick	INVSLE Combination	4.9984	1.9447	-4.70		
3.26	520	9 Shell-Thick	INVSLE Combination	4.8558	1.5678	-4.51		
2.47	520	9 Shell-Thick	INVSLE Combination	2.0582	0.6499	-8.32		
2.47	520	9 Shell-Thick	INVSLE Combination	2.2625	1.1310	-8.44		
2.56	520	9 Shell-Thick	INVSLE Combination	2.8109	1.2981	-8.44		
2.56	520	9 Shell-Thick	INVSLE Combination	2.5950	0.8225	-8.32		
4.20	520	9 Shell-Thick	INVSLE Combination	7.5753	2.5663	-6.09		
4.20	520	9 Shell-Thick	INVSLE Combination	7.5889	2.7308	-6.34		
4.40	520	9 Shell-Thick	INVSLE Combination	9.4760	3.2681	-6.34		
4.40	520	9 Shell-Thick	INVSLE Combination	9.4836	3.0935	-6.09		
1.15	520	9 Shell-Thick	INVSLE Combination	2.7786	0.8774	-16.13		
1.15	520	9 Shell-Thick	INVSLE Combination	3.0544	1.5268	-16.09		
1.11	520	9 Shell-Thick	INVSLE Combination	3.7947	1.7525	-16.09		
1.11	520	9 Shell-Thick	INVSLE Combination	3.5033	1.1103	-16.13		
3.25	521	10 Shell-Thick	INVSLE Combination	4.8324	1.5567	-3.45		
3.25	521	10 Shell-Thick	INVSLE Combination	4.9625	1.9439	-3.59		
3.35	521	10 Shell-Thick	INVSLE Combination	5.7172	2.1699	-3.59		
3.35	521	10 Shell-Thick	INVSLE Combination	5.5862	1.7830	-3.45		
2.55	521	10 Shell-Thick	INVSLE Combination	2.5722	0.8067	-6.36		
2.55	521	10 Shell-Thick	INVSLE Combination	2.7851	1.3042	-6.44		
2.61	521	10 Shell-Thick	INVSLE Combination	3.2041	1.4350	-6.44		
2.61	521	10 Shell-Thick	INVSLE Combination	2.9825	0.9417	-6.36		
4.38	521	10 Shell-Thick	INVSLE Combination	9.4588	3.0918	-4.66		
4.38	521	10 Shell-Thick	INVSLE Combination	9.4193	3.2535	-4.84		
4.53	521	10 Shell-Thick	INVSLE Combination	10.8614	3.6741	-4.84		
4.53	521	10 Shell-Thick	INVSLE Combination	10.9159	3.5052	-4.66		
1.12	521	10 Shell-Thick	INVSLE Combination	3.4725	1.0891	-12.33		
1.12	521	10 Shell-Thick	INVSLE Combination	3.7599	1.7606	-12.28		
1.09	521	10 Shell-Thick	INVSLE Combination	4.3256	1.9373	-12.28		
1.09	521	10 Shell-Thick	INVSLE Combination	4.0263	1.2713	-12.33		
3.35	522	11 Shell-Thick	INVSLE Combination	5.5602	1.7739	-2.39		
3.35	522	11 Shell-Thick	INVSLE Combination	5.6878	2.1679	-2.49		
3.42	522	11 Shell-Thick	INVSLE Combination	6.2108	2.3258	-2.49		
3.42	522	11 Shell-Thick	INVSLE Combination	6.0826	1.9321	-2.39		
2.61	522	11 Shell-Thick	INVSLE Combination	2.9618	0.9297	-4.41		

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 166 di 416
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2.61	522	11 Shell-Thick	INVSLE Combination	3.1820	1.4385	-4.46		
2.64	522	11 Shell-Thick	INVSLE Combination	3.4724	1.5303	-4.46		
2.64	522	11 Shell-Thick	INVSLE Combination	3.2462	1.0243	-4.41		
4.52	522	11 Shell-Thick	INVSLU Combination	10.8790	3.5019	-3.23		
4.52	522	11 Shell-Thick	INVSLU Combination	10.8169	3.6611	-3.35		
4.61	522	11 Shell-Thick	INVSLU Combination	11.8162	3.9542	-3.35		
4.61	522	11 Shell-Thick	INVSLU Combination	11.8887	3.7901	-3.23		
1.09	522	11 Shell-Thick	INVSLU Combination	3.9985	1.2551	-8.54		
1.09	522	11 Shell-Thick	INVSLU Combination	4.2957	1.9420	-8.51		
1.06	522	11 Shell-Thick	INVSLU Combination	4.6877	2.0659	-8.51		
1.06	522	11 Shell-Thick	INVSLU Combination	4.3823	1.3829	-8.54		
3.41	523	12 Shell-Thick	INVSLE Combination	6.0668	1.9257	-1.34		
3.41	523	12 Shell-Thick	INVSLE Combination	6.1846	2.3238	-1.39		
3.45	523	12 Shell-Thick	INVSLE Combination	6.4772	2.4128	-1.39		
3.45	523	12 Shell-Thick	INVSLE Combination	6.3585	2.0151	-1.34		
2.64	523	12 Shell-Thick	INVSLE Combination	3.2324	1.0164	-2.47		
2.64	523	12 Shell-Thick	INVSLE Combination	3.4547	1.5320	-2.49		
2.66	523	12 Shell-Thick	INVSLE Combination	3.6171	1.5837	-2.49		
2.66	523	12 Shell-Thick	INVSLE Combination	3.3913	1.0698	-2.47		
4.61	523	12 Shell-Thick	INVSLU Combination	11.8685	3.7870	-1.81		
4.61	523	12 Shell-Thick	INVSLU Combination	11.7724	3.9445	-1.87		
4.66	523	12 Shell-Thick	INVSLU Combination	12.3316	4.1099	-1.87		
4.66	523	12 Shell-Thick	INVSLU Combination	12.4322	3.9502	-1.81		
1.07	523	12 Shell-Thick	INVSLU Combination	4.3638	1.3721	-4.78		
1.07	523	12 Shell-Thick	INVSLU Combination	4.6639	2.0682	-4.76		
1.05	523	12 Shell-Thick	INVSLU Combination	4.8831	2.1381	-4.76		
1.05	523	12 Shell-Thick	INVSLU Combination	4.5782	1.4442	-4.78		
3.45	524	13 Shell-Thick	INVSLE Combination	6.3459	2.0115	-0.28		
3.45	524	13 Shell-Thick	INVSLE Combination	6.4651	2.4115	-0.30		
3.46	524	13 Shell-Thick	INVSLE Combination	6.5279	2.4298	-0.30		
3.46	524	13 Shell-Thick	INVSLE Combination	6.4076	2.0304	-0.28		
2.66	524	13 Shell-Thick	INVSLE Combination	3.3829	1.0659	-0.53		
2.66	524	13 Shell-Thick	INVSLE Combination	3.6084	1.5842	-0.53		
2.67	524	13 Shell-Thick	INVSLE Combination	3.6432	1.5949	-0.53		
2.67	524	13 Shell-Thick	INVSLE Combination	3.4166	1.0770	-0.53		
4.66	524	13 Shell-Thick	INVSLU Combination	12.4110	3.9473	-0.38		
4.66	524	13 Shell-Thick	INVSLU Combination	12.3127	4.1049	-0.40		
4.67	524	13 Shell-Thick	INVSLU Combination	12.4327	4.1389	-0.40		
4.67	524	13 Shell-Thick	INVSLU Combination	12.5302	3.9818	-0.38		

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 167 di 416
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1.05	524	13 Shell-Thick	INVSLU Combination	4.5670	1.4389	-1.02		
1.05	524	13 Shell-Thick	INVSLU Combination	4.8714	2.1387	-1.01		
1.05	524	13 Shell-Thick	INVSLU Combination	4.9183	2.1531	-1.01		
1.05	524	13 Shell-Thick	INVSLU Combination	4.6124	1.4540	-1.02		
3.46	525	14 Shell-Thick	INVSLE Combination	6.4077	2.0300	1.42		
3.46	525	14 Shell-Thick	INVSLE Combination	6.5238	2.4294	1.43		
3.44	525	14 Shell-Thick	INVSLE Combination	6.3569	2.3768	1.43		
3.44	525	14 Shell-Thick	INVSLE Combination	6.2396	1.9779	1.42		
2.67	525	14 Shell-Thick	INVSLE Combination	3.4167	1.0774	0.77		
2.67	525	14 Shell-Thick	INVSLE Combination	3.6421	1.5943	0.80		
2.65	525	14 Shell-Thick	INVSLE Combination	3.5493	1.5637	0.80		
2.65	525	14 Shell-Thick	INVSLE Combination	3.3252	1.0462	0.77		
4.67	525	14 Shell-Thick	INVSLU Combination	12.5302	3.9798	2.74		
4.67	525	14 Shell-Thick	INVSLU Combination	12.4227	4.1389	2.73		
4.64	525	14 Shell-Thick	INVSLU Combination	12.1039	4.0412	2.73		
4.64	525	14 Shell-Thick	INVSLU Combination	12.2050	3.8851	2.74		
1.04	525	14 Shell-Thick	INVSLU Combination	4.6126	1.4545	1.04		
1.04	525	14 Shell-Thick	INVSLU Combination	4.9168	2.1523	1.07		
1.06	525	14 Shell-Thick	INVSLU Combination	4.7915	2.1110	1.07		
1.06	525	14 Shell-Thick	INVSLU Combination	4.4891	1.4124	1.04		
3.44	526	15 Shell-Thick	INVSLE Combination	6.2436	1.9804	3.36		
3.44	526	15 Shell-Thick	INVSLE Combination	6.3678	2.3773	3.39		
3.39	526	15 Shell-Thick	INVSLE Combination	5.9708	2.2551	3.39		
3.39	526	15 Shell-Thick	INVSLE Combination	5.8452	1.8590	3.36		
2.66	526	15 Shell-Thick	INVSLE Combination	3.3311	1.0507	1.82		
2.66	526	15 Shell-Thick	INVSLE Combination	3.5576	1.5621	1.89		
2.63	526	15 Shell-Thick	INVSLE Combination	3.3371	1.4909	1.89		
2.63	526	15 Shell-Thick	INVSLE Combination	3.1143	0.9778	1.82		
4.64	526	15 Shell-Thick	INVSLU Combination	12.2054	3.8835	6.50		
4.64	526	15 Shell-Thick	INVSLU Combination	12.1200	4.0461	6.47		
4.57	526	15 Shell-Thick	INVSLU Combination	11.3619	3.8195	6.47		
4.57	526	15 Shell-Thick	INVSLU Combination	11.4351	3.6627	6.50		
1.05	526	15 Shell-Thick	INVSLU Combination	4.4970	1.4184	2.46		
1.05	526	15 Shell-Thick	INVSLU Combination	4.8028	2.1088	2.55		
1.08	526	15 Shell-Thick	INVSLU Combination	4.5051	2.0127	2.55		
1.08	526	15 Shell-Thick	INVSLU Combination	4.2044	1.3200	2.46		
3.39	527	16 Shell-Thick	INVSLE Combination	5.8602	1.8643	5.31		
3.39	527	16 Shell-Thick	INVSLE Combination	5.9869	2.2560	5.37		
3.31	527	16 Shell-Thick	INVSLE Combination	5.3589	2.0645	5.37		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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3.31	527	16 Shell-Thick	INVSLE Combination	5.2309	1.6736		5.31	
2.63	527	16 Shell-Thick	INVSLE Combination	3.1276	0.9864		2.88	
2.63	527	16 Shell-Thick	INVSLE Combination	3.3512	1.4878		2.99	
2.58	527	16 Shell-Thick	INVSLE Combination	3.0024	1.3768		2.99	
2.58	527	16 Shell-Thick	INVSLE Combination	2.7853	0.8724		2.88	
4.58	527	16 Shell-Thick	INVSLE Combination	11.4537	3.6615		10.27	
4.58	527	16 Shell-Thick	INVSLE Combination	11.3820	3.8284		10.23	
4.47	527	16 Shell-Thick	INVSLE Combination	10.1826	3.4723		10.23	
4.47	527	16 Shell-Thick	INVSLE Combination	10.2371	3.3136		10.27	
1.07	527	16 Shell-Thick	INVSLE Combination	4.2223	1.3316		3.89	
1.07	527	16 Shell-Thick	INVSLE Combination	4.5241	2.0085		4.03	
1.10	527	16 Shell-Thick	INVSLE Combination	4.0532	1.8587		4.03	
1.10	527	16 Shell-Thick	INVSLE Combination	3.7601	1.1777		3.89	
3.32	528	17 Shell-Thick	INVSLE Combination	5.2454	1.6812		7.26	
3.32	528	17 Shell-Thick	INVSLE Combination	5.3837	2.0648		7.35	
3.20	528	17 Shell-Thick	INVSLE Combination	4.5237	1.8090		7.35	
3.20	528	17 Shell-Thick	INVSLE Combination	4.3840	1.4262		7.26	
2.59	528	17 Shell-Thick	INVSLE Combination	2.8018	0.8848		3.94	
2.59	528	17 Shell-Thick	INVSLE Combination	3.0217	1.3716		4.09	
2.52	528	17 Shell-Thick	INVSLE Combination	2.5441	1.2232		4.09	
2.52	528	17 Shell-Thick	INVSLE Combination	2.3333	0.7322		3.94	
4.48	528	17 Shell-Thick	INVSLE Combination	10.2474	3.3113		14.06	
4.48	528	17 Shell-Thick	INVSLE Combination	10.2185	3.4838		14.02	
4.32	528	17 Shell-Thick	INVSLE Combination	8.5759	3.0083		14.02	
4.32	528	17 Shell-Thick	INVSLE Combination	8.5816	2.8468		14.06	
1.10	528	17 Shell-Thick	INVSLE Combination	3.7824	1.1945		5.32	
1.10	528	17 Shell-Thick	INVSLE Combination	4.0794	1.8516		5.53	
1.13	528	17 Shell-Thick	INVSLE Combination	3.4346	1.6513		5.53	
1.13	528	17 Shell-Thick	INVSLE Combination	3.1499	0.9884		5.32	
3.21	529	18 Shell-Thick	INVSLE Combination	4.4034	1.4358		9.23	
3.21	529	18 Shell-Thick	INVSLE Combination	4.5434	1.8073		9.35	
3.05	529	18 Shell-Thick	INVSLE Combination	3.4493	1.4876		9.35	
3.05	529	18 Shell-Thick	INVSLE Combination	3.3085	1.1165		9.23	
2.52	529	18 Shell-Thick	INVSLE Combination	2.3536	0.7482		5.00	
2.52	529	18 Shell-Thick	INVSLE Combination	2.5624	1.2148		5.21	
2.42	529	18 Shell-Thick	INVSLE Combination	1.9549	1.0306		5.21	
2.42	529	18 Shell-Thick	INVSLE Combination	1.7583	0.5582		5.00	
4.33	529	18 Shell-Thick	INVSLE Combination	8.5993	2.8431		17.88	
4.33	529	18 Shell-Thick	INVSLE Combination	8.5984	3.0201		17.84	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 169 di 416
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4.11	529	18 Shell-Thick	INVSLU Combination	6.5082	2.4232	17.84		
4.11	529	18 Shell-Thick	INVSLU Combination	6.4818	2.2592	17.88		
1.12	529	18 Shell-Thick	INVSLU Combination	3.1773	1.0101	6.75		
1.12	529	18 Shell-Thick	INVSLU Combination	3.4593	1.6400	7.03		
1.15	529	18 Shell-Thick	INVSLU Combination	2.6391	1.3913	7.03		
1.15	529	18 Shell-Thick	INVSLU Combination	2.3737	0.7536	6.75		
3.07	530	19 Shell-Thick	INVSLE Combination	3.3182	1.1269	11.20		
3.07	530	19 Shell-Thick	INVSLE Combination	3.4646	1.4822	11.38		
2.85	530	19 Shell-Thick	INVSLE Combination	2.1346	1.1078	11.38		
2.85	530	19 Shell-Thick	INVSLE Combination	1.9877	0.7529	11.20		
2.43	530	19 Shell-Thick	INVSLE Combination	1.7765	0.5775	6.07		
2.43	530	19 Shell-Thick	INVSLE Combination	1.9695	1.0179	6.34		
2.30	530	19 Shell-Thick	INVSLE Combination	1.2310	0.8022	6.34		
2.30	530	19 Shell-Thick	INVSLE Combination	1.0535	0.3545	6.07		
4.14	530	19 Shell-Thick	INVSLU Combination	6.4741	2.2516	21.72		
4.14	530	19 Shell-Thick	INVSLU Combination	6.5249	2.4326	21.70		
3.85	530	19 Shell-Thick	INVSLU Combination	3.9841	1.7335	21.70		
3.85	530	19 Shell-Thick	INVSLU Combination	3.9000	1.5683	21.72		
1.14	530	19 Shell-Thick	INVSLU Combination	2.3982	0.7796	8.19		
1.14	530	19 Shell-Thick	INVSLU Combination	2.6588	1.3742	8.56		
1.16	530	19 Shell-Thick	INVSLU Combination	1.6619	1.0830	8.56		
1.16	530	19 Shell-Thick	INVSLU Combination	1.4223	0.4786	8.19		
2.88	531	20 Shell-Thick	INVSLE Combination	1.9920	0.7637	13.20		
2.88	531	20 Shell-Thick	INVSLE Combination	2.1282	1.0966	13.43		
2.61	531	20 Shell-Thick	INVSLE Combination	0.5592	0.6670	13.43		
2.61	531	20 Shell-Thick	INVSLE Combination	0.4243	0.3336	13.20		
2.31	531	20 Shell-Thick	INVSLE Combination	1.0690	0.3766	7.14		
2.31	531	20 Shell-Thick	INVSLE Combination	1.2333	0.7836	7.48		
2.13	531	20 Shell-Thick	INVSLE Combination	0.3623	0.5386	7.48		
2.13	531	20 Shell-Thick	INVSLE Combination	0.2177	0.1223	7.14		
3.88	531	20 Shell-Thick	INVSLU Combination	3.8812	1.5561	25.60		
3.88	531	20 Shell-Thick	INVSLU Combination	3.9599	1.7371	25.60		
3.52	531	20 Shell-Thick	INVSLU Combination	0.9622	0.9298	25.60		
3.52	531	20 Shell-Thick	INVSLU Combination	0.8471	0.7660	25.60		
1.15	531	20 Shell-Thick	INVSLU Combination	1.4432	0.5084	9.64		
1.15	531	20 Shell-Thick	INVSLU Combination	1.6650	1.0579	10.10		
1.15	531	20 Shell-Thick	INVSLU Combination	0.4892	0.7271	10.10		
1.15	531	20 Shell-Thick	INVSLU Combination	0.2939	0.1652	9.64		
2.64	532	21 Shell-Thick	INVSLE Combination	0.4065	0.3435	15.21		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 170 di 416
2.64	532	21 Shell-Thick	INVSLE Combination	0.5287	0.6474	15.50		
2.31	532	21 Shell-Thick	INVSLE Combination	-0.6573	0.2445	15.50		
2.31	532	21 Shell-Thick	INVSLE Combination	-0.7574	-0.1281	15.21		
2.15	532	21 Shell-Thick	INVSLE Combination	0.2234	0.1467	8.22		
2.15	532	21 Shell-Thick	INVSLE Combination	0.3474	0.5123	8.64		
1.91	532	21 Shell-Thick	INVSLE Combination	-1.2814	0.1767	8.64		
1.91	532	21 Shell-Thick	INVSLE Combination	-1.4013	-0.1323	8.22		
3.56	532	21 Shell-Thick	INVSLE Combination	0.7813	0.7464	29.51		
3.56	532	21 Shell-Thick	INVSLE Combination	0.8998	0.9239	29.56		
3.12	532	21 Shell-Thick	INVSLE Combination	-0.8874	0.3300	29.56		
3.12	532	21 Shell-Thick	INVSLE Combination	-1.0225	-0.1195	29.51		
1.14	532	21 Shell-Thick	INVSLE Combination	0.3016	0.1981	11.09		
1.14	532	21 Shell-Thick	INVSLE Combination	0.4691	0.6916	11.66		
1.10	532	21 Shell-Thick	INVSLE Combination	-2.5587	0.0380	11.66		
1.10	532	21 Shell-Thick	INVSLE Combination	-2.7192	-0.1786	11.09		
2.34	533	22 Shell-Thick	INVSLE Combination	-0.7632	-0.1060	17.23		
2.34	533	22 Shell-Thick	INVSLE Combination	-0.6994	0.2085	17.61		
1.94	533	22 Shell-Thick	INVSLE Combination	-1.8399	-0.0801	17.61		
1.94	533	22 Shell-Thick	INVSLE Combination	-1.8743	-0.4083	17.23		
1.93	533	22 Shell-Thick	INVSLE Combination	-1.4384	-0.1196	9.30		
1.93	533	22 Shell-Thick	INVSLE Combination	-1.3543	0.1462	9.81		
1.63	533	22 Shell-Thick	INVSLE Combination	-3.4095	-0.3685	9.81		
1.63	533	22 Shell-Thick	INVSLE Combination	-3.4881	-0.6368	9.30		
3.16	533	22 Shell-Thick	INVSLE Combination	-1.0304	-0.1431	33.47		
3.16	533	22 Shell-Thick	INVSLE Combination	-0.9442	0.2815	33.58		
2.62	533	22 Shell-Thick	INVSLE Combination	-2.4839	-0.1081	33.58		
2.62	533	22 Shell-Thick	INVSLE Combination	-2.5303	-0.5512	33.47		
1.08	533	22 Shell-Thick	INVSLE Combination	-2.8203	-0.1635	12.56		
1.08	533	22 Shell-Thick	INVSLE Combination	-2.6947	0.0186	13.25		
0.99	533	22 Shell-Thick	INVSLE Combination	-6.6224	-0.9590	13.25		
0.99	533	22 Shell-Thick	INVSLE Combination	-6.7913	-1.1046	12.56		
1.98	534	23 Shell-Thick	INVSLE Combination	-1.8984	-0.3805	19.27		
1.98	534	23 Shell-Thick	INVSLE Combination	-1.9158	-0.1279	19.75		
1.50	534	23 Shell-Thick	INVSLE Combination	-3.1936	-0.4291	19.75		
1.50	534	23 Shell-Thick	INVSLE Combination	-3.1409	-0.6983	19.27		
1.65	534	23 Shell-Thick	INVSLE Combination	-3.5587	-0.6309	10.39		
1.65	534	23 Shell-Thick	INVSLE Combination	-3.5305	-0.4128	11.00		
1.28	534	23 Shell-Thick	INVSLE Combination	-5.8334	-0.9536	11.00		
1.28	534	23 Shell-Thick	INVSLE Combination	-5.8535	-1.1753	10.39		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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2.67	534	23 Shell-Thick	INVSLE Combination	-2.5629	-0.5137	37.46		
2.67	534	23 Shell-Thick	INVSLE Combination	-2.5863	-0.1726	37.66		
2.02	534	23 Shell-Thick	INVSLE Combination	-4.3114	-0.5793	37.66		
2.02	534	23 Shell-Thick	INVSLE Combination	-4.2402	-0.9427	37.46		
0.98	534	23 Shell-Thick	INVSLE Combination	-6.9571	-1.1433	14.02		
0.98	534	23 Shell-Thick	INVSLE Combination	-6.8356	-0.9961	14.86		
0.83	534	23 Shell-Thick	INVSLE Combination	-11.2368	-2.0272	14.86		
0.83	534	23 Shell-Thick	INVSLE Combination	-11.4060	-2.1516	14.02		
1.54	535	24 Shell-Thick	INVSLE Combination	-3.1855	-0.6692	21.33		
1.54	535	24 Shell-Thick	INVSLE Combination	-3.3127	-0.4910	21.93		
0.97	535	24 Shell-Thick	INVSLE Combination	-4.7300	-0.8038	21.93		
0.97	535	24 Shell-Thick	INVSLE Combination	-4.5599	-1.0021	21.33		
1.31	535	24 Shell-Thick	INVSLE Combination	-5.9570	-1.1721	11.48		
1.31	535	24 Shell-Thick	INVSLE Combination	-6.0180	-1.0144	12.22		
0.84	535	24 Shell-Thick	INVSLE Combination	-8.5731	-1.5873	12.22		
0.84	535	24 Shell-Thick	INVSLE Combination	-8.4986	-1.7512	11.48		
2.08	535	24 Shell-Thick	INVSLE Combination	-4.3005	-0.9034	41.50		
2.08	535	24 Shell-Thick	INVSLE Combination	-4.4722	-0.6628	41.81		
1.30	535	24 Shell-Thick	INVSLE Combination	-6.3856	-1.0851	41.81		
1.30	535	24 Shell-Thick	INVSLE Combination	-6.1559	-1.3528	41.50		
0.82	535	24 Shell-Thick	INVSLE Combination	-11.6301	-2.2016	15.50		
0.82	535	24 Shell-Thick	INVSLE Combination	-11.5555	-2.0858	16.49		
0.58	535	24 Shell-Thick	INVSLE Combination	-16.4397	-3.1910	16.49		
0.58	535	24 Shell-Thick	INVSLE Combination	-16.5610	-3.2845	15.50		
1.04	536	25 Shell-Thick	INVSLE Combination	-4.6400	-0.9583	23.91		
1.04	536	25 Shell-Thick	INVSLE Combination	-4.9701	-0.9117	24.72		
02	536	25 Shell-Thick	INVSLE Combination	-7.3341	-1.3836	24.72	-7.011E-	
02	536	25 Shell-Thick	INVSLE Combination	-6.9740	-1.4781	23.91	-7.011E-	
0.88	536	25 Shell-Thick	INVSLE Combination	-8.6840	-1.7487	12.82		
0.88	536	25 Shell-Thick	INVSLE Combination	-8.9218	-1.6966	13.79		
02	536	25 Shell-Thick	INVSLE Combination	-13.2207	-2.5841	13.79	-9.795E-	
02	536	25 Shell-Thick	INVSLE Combination	-12.9712	-2.6543	12.82	-9.795E-	
1.40	536	25 Shell-Thick	INVSLE Combination	-6.2640	-1.2936	46.61		
1.40	536	25 Shell-Thick	INVSLE Combination	-6.7097	-1.2307	47.10		
02	536	25 Shell-Thick	INVSLE Combination	-9.9010	-1.8678	47.10	-1.312E-	
02	536	25 Shell-Thick	INVSLE Combination	-9.4149	-1.9954	46.61	-1.312E-	
0.57	536	25 Shell-Thick	INVSLE Combination	-16.9618	-3.3667	17.31		
0.57	536	25 Shell-Thick	INVSLE Combination	-17.0108	-3.3032	18.61		
0.13	536	25 Shell-Thick	INVSLE Combination	-25.2703	-5.0415	18.61	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 173 di 416
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0.90	539	613 Shell-Thick	INVSLE Combination	0.6561	-0.1083	-11.08		
0.84	539	613 Shell-Thick	INVSLE Combination	0.0532	-0.1372	-11.08		
1.20	539	613 Shell-Thick	INVSLE Combination	1.8146	0.0506	-7.00		
1.30	539	613 Shell-Thick	INVSLE Combination	4.5495	0.2463	-7.00		
1.30	539	613 Shell-Thick	INVSLE Combination	4.4949	0.1532	-6.91		
1.20	539	613 Shell-Thick	INVSLE Combination	1.7445	-0.0249	-6.91		
0.73	539	613 Shell-Thick	INVSLE Combination	0.1792	-0.0388	-23.31		
0.77	539	613 Shell-Thick	INVSLE Combination	1.0028	-0.0109	-23.31		
0.77	539	613 Shell-Thick	INVSLE Combination	0.8857	-0.1462	-23.28		
0.73	539	613 Shell-Thick	INVSLE Combination	0.0719	-0.1852	-23.28		
0.32	540	614 Shell-Thick	INVSLE Combination	0.6266	0.0118	-5.12		
0.34	540	614 Shell-Thick	INVSLE Combination	1.9282	0.0182	-5.12		
0.34	540	614 Shell-Thick	INVSLE Combination	1.8974	-0.0182	-5.09		
0.32	540	614 Shell-Thick	INVSLE Combination	0.5934	-0.0219	-5.09		
0.30	540	614 Shell-Thick	INVSLE Combination	0.0756	-0.0108	-11.07		
0.32	540	614 Shell-Thick	INVSLE Combination	0.6791	-0.0074	-11.07		
0.32	540	614 Shell-Thick	INVSLE Combination	0.6186	-0.0416	-11.06		
0.30	540	614 Shell-Thick	INVSLE Combination	0.0204	-0.0510	-11.06		
0.43	540	614 Shell-Thick	INVSLE Combination	1.7545	0.0579	-6.91		
0.46	540	614 Shell-Thick	INVSLE Combination	4.4850	0.0706	-6.91		
0.46	540	614 Shell-Thick	INVSLE Combination	4.5150	0.0297	-6.87		
0.43	540	614 Shell-Thick	INVSLE Combination	1.7663	0.0379	-6.87		
0.27	540	614 Shell-Thick	INVSLE Combination	0.1021	-0.0145	-23.27		
0.27	540	614 Shell-Thick	INVSLE Combination	0.9168	-0.0100	-23.27		
0.27	540	614 Shell-Thick	INVSLE Combination	0.8352	-0.0562	-23.27		
0.27	540	614 Shell-Thick	INVSLE Combination	0.0276	-0.0689	-23.27		
0.95	541	615 Shell-Thick	INVSLE Combination	2.0125	0.0844	-4.41		
1.01	541	615 Shell-Thick	INVSLE Combination	3.1170	0.1296	-4.41		
1.01	541	615 Shell-Thick	INVSLE Combination	3.0668	0.0263	-4.36		
0.95	541	615 Shell-Thick	INVSLE Combination	1.9617	-0.0183	-4.36		
0.89	541	615 Shell-Thick	INVSLE Combination	0.7218	-0.0050	-9.41		
0.94	541	615 Shell-Thick	INVSLE Combination	1.2414	0.0046	-9.41		
0.94	541	615 Shell-Thick	INVSLE Combination	1.1543	-0.1025	-9.36		
0.89	541	615 Shell-Thick	INVSLE Combination	0.6406	-0.1187	-9.36		
1.29	541	615 Shell-Thick	INVSLE Combination	4.6544	0.2674	-5.96		
1.36	541	615 Shell-Thick	INVSLE Combination	6.9561	0.3856	-5.96		
1.36	541	615 Shell-Thick	INVSLE Combination	6.9814	0.2898	-5.89		
1.29	541	615 Shell-Thick	INVSLE Combination	4.6658	0.1874	-5.89		
0.77	541	615 Shell-Thick	INVSLE Combination	0.9744	-0.0067	-19.62		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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0.79	541	615 Shell-Thick	INVSLU Combination	1.6759	0.0062	-19.62		
0.79	541	615 Shell-Thick	INVSLU Combination	1.5584	-0.1384	-19.60		
0.77	541	615 Shell-Thick	INVSLU Combination	0.8648	-0.1603	-19.60		
0.34	542	616 Shell-Thick	INVSLE Combination	1.9707	0.0275	-4.36		
0.36	542	616 Shell-Thick	INVSLE Combination	3.0707	0.0453	-4.36		
0.36	542	616 Shell-Thick	INVSLE Combination	3.0568	0.0067	-4.34		
0.34	542	616 Shell-Thick	INVSLE Combination	1.9540	-0.0077	-4.34		
0.32	542	616 Shell-Thick	INVSLE Combination	0.6615	-0.0068	-9.36		
0.34	542	616 Shell-Thick	INVSLE Combination	1.1759	-0.0020	-9.36		
0.34	542	616 Shell-Thick	INVSLE Combination	1.1145	-0.0389	-9.35		
0.32	542	616 Shell-Thick	INVSLE Combination	0.6043	-0.0486	-9.35		
0.46	542	616 Shell-Thick	INVSLE Combination	0.6043	-0.0486	-9.35		
0.46	542	616 Shell-Thick	INVSLE Combination	4.6506	0.0979	-5.89		
0.49	542	616 Shell-Thick	INVSLE Combination	6.9491	0.1419	-5.89		
0.49	542	616 Shell-Thick	INVSLE Combination	7.0327	0.1000	-5.86		
0.46	542	616 Shell-Thick	INVSLE Combination	4.7167	0.0759	-5.86		
0.28	542	616 Shell-Thick	INVSLE Combination	0.8930	-0.0092	-19.60		
0.29	542	616 Shell-Thick	INVSLE Combination	1.5875	-0.0026	-19.60		
0.29	542	616 Shell-Thick	INVSLE Combination	1.5045	-0.0525	-19.59		
0.28	542	616 Shell-Thick	INVSLE Combination	0.8158	-0.0656	-19.59		
1.00	543	617 Shell-Thick	INVSLE Combination	3.1508	0.1386	-3.61		
1.04	543	617 Shell-Thick	INVSLE Combination	4.0492	0.1801	-3.61		
1.04	543	617 Shell-Thick	INVSLE Combination	4.0063	0.0721	-3.57		
1.00	543	617 Shell-Thick	INVSLE Combination	3.1067	0.0321	-3.57		
0.94	543	617 Shell-Thick	INVSLE Combination	1.2359	0.0089	-7.65		
0.97	543	617 Shell-Thick	INVSLE Combination	1.6613	0.0173	-7.65		
0.97	543	617 Shell-Thick	INVSLE Combination	1.5704	-0.0954	-7.62		
0.94	543	617 Shell-Thick	INVSLE Combination	1.1495	-0.1089	-7.62		
1.35	543	617 Shell-Thick	INVSLE Combination	7.0707	0.4041	-4.88		
1.41	543	617 Shell-Thick	INVSLE Combination	8.9373	0.5133	-4.88		
1.41	543	617 Shell-Thick	INVSLE Combination	8.9926	0.4150	-4.83		
1.35	543	617 Shell-Thick	INVSLE Combination	7.1131	0.3206	-4.83		
0.80	543	617 Shell-Thick	INVSLE Combination	1.6684	0.0120	-15.92		
0.82	543	617 Shell-Thick	INVSLE Combination	2.2427	0.0233	-15.92		
0.82	543	617 Shell-Thick	INVSLE Combination	2.1200	-0.1287	-15.90		
0.80	543	617 Shell-Thick	INVSLE Combination	1.5518	-0.1470	-15.90		
0.36	544	618 Shell-Thick	INVSLE Combination	3.1096	0.0539	-3.57		
0.37	544	618 Shell-Thick	INVSLE Combination	4.0046	0.0561	-3.57		
0.37	544	618 Shell-Thick	INVSLE Combination	4.0111	0.0163	-3.56		
0.36	544	618 Shell-Thick	INVSLE Combination	3.1134	0.0172	-3.56		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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0.33	544	618 Shell-Thick	INVSLE Combination	1.1696	2.697E-04		-7.62	
0.35	544	618 Shell-Thick	INVSLE Combination	1.5910	-5.686E-04		-7.62	
0.35	544	618 Shell-Thick	INVSLE Combination	1.5313	-0.0396		-7.61	
0.33	544	618 Shell-Thick	INVSLE Combination	1.1133	-0.0426		-7.61	
0.48	544	618 Shell-Thick	INVSLE Combination	7.0807	0.1638		-4.82	
0.50	544	618 Shell-Thick	INVSLE Combination	8.9451	0.1721		-4.82	
0.50	544	618 Shell-Thick	INVSLE Combination	9.0872	0.1306		-4.80	
0.48	544	618 Shell-Thick	INVSLE Combination	7.2077	0.1395		-4.80	
0.29	544	618 Shell-Thick	INVSLE Combination	1.5789	3.641E-04		-15.90	
0.29	544	618 Shell-Thick	INVSLE Combination	2.1479	-7.676E-04		-15.90	
0.29	544	618 Shell-Thick	INVSLE Combination	2.0673	-0.0534		-15.90	
0.29	544	618 Shell-Thick	INVSLE Combination	1.5029	-0.0575		-15.90	
1.04	545	619 Shell-Thick	INVSLE Combination	4.0748	0.1874		-2.79	
1.07	545	619 Shell-Thick	INVSLE Combination	4.7648	0.2117		-2.79	
1.07	545	619 Shell-Thick	INVSLE Combination	4.7365	0.1008		-2.76	
1.04	545	619 Shell-Thick	INVSLE Combination	4.0455	0.0777		-2.76	
0.97	545	619 Shell-Thick	INVSLE Combination	1.6603	0.0215		-5.88	
0.99	545	619 Shell-Thick	INVSLE Combination	1.9886	0.0252		-5.88	
0.99	545	619 Shell-Thick	INVSLE Combination	1.8979	-0.0916		-5.85	
0.97	545	619 Shell-Thick	INVSLE Combination	1.5730	-0.0992		-5.85	
1.40	545	619 Shell-Thick	INVSLE Combination	9.0172	0.5271		-3.76	
1.44	545	619 Shell-Thick	INVSLE Combination	10.4475	0.5934		-3.76	
1.44	545	619 Shell-Thick	INVSLE Combination	10.5470	0.4948		-3.73	
1.40	545	619 Shell-Thick	INVSLE Combination	9.1065	0.4400		-3.73	
0.82	545	619 Shell-Thick	INVSLE Combination	2.2414	0.0290		-12.20	
0.83	545	619 Shell-Thick	INVSLE Combination	2.6846	0.0341		-12.20	
0.83	545	619 Shell-Thick	INVSLE Combination	2.5622	-0.1237		-12.19	
0.82	545	619 Shell-Thick	INVSLE Combination	2.1236	-0.1340		-12.19	
02	546	26 Shell-Thick	INVSLE Combination	-7.4524	-1.5502		-14.12	-4.060E-
02	546	26 Shell-Thick	INVSLE Combination	-7.7808	-1.4965		-14.93	-4.060E-
0.65	546	26 Shell-Thick	INVSLE Combination	-6.0487	-1.1500		-14.93	
0.65	546	26 Shell-Thick	INVSLE Combination	-5.7635	-1.1751		-14.12	
02	546	26 Shell-Thick	INVSLE Combination	-13.3625	-2.7114		-25.34	-6.287E-
02	546	26 Shell-Thick	INVSLE Combination	-13.5634	-2.6738		-26.01	-6.287E-
0.54	546	26 Shell-Thick	INVSLE Combination	-10.5335	-2.0450		-26.01	
0.54	546	26 Shell-Thick	INVSLE Combination	-10.3450	-2.0746		-25.34	
03	546	26 Shell-Thick	INVSLE Combination	-10.0607	-2.0927		-19.06	4.974E-
03	546	26 Shell-Thick	INVSLE Combination	-10.5041	-2.0202		-20.16	4.974E-
0.88	546	26 Shell-Thick	INVSLE Combination	-8.1658	-1.5524		-20.16	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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0.88	546	26 Shell-Thick	INVSLE Combination	-7.7808	-1.5864	-19.06		
02	546	26 Shell-Thick	INVSLE Combination	-25.4603	-5.0884	-48.32	-8.487E-	
02	546	26 Shell-Thick	INVSLE Combination	-25.4002	-5.0837	-48.68	-8.487E-	
0.32	546	26 Shell-Thick	INVSLE Combination	-19.7136	-3.8770	-48.68		
0.32	546	26 Shell-Thick	INVSLE Combination	-19.7230	-3.9158	-48.32		
0.60	547	27 Shell-Thick	INVSLE Combination	-5.6303	-1.1923	-12.87		
0.60	547	27 Shell-Thick	INVSLE Combination	-5.8122	-1.0588	-13.57		
1.21	547	27 Shell-Thick	INVSLE Combination	-4.2373	-0.7103	-13.57		
1.21	547	27 Shell-Thick	INVSLE Combination	-4.0912	-0.8201	-12.87		
0.51	547	27 Shell-Thick	INVSLE Combination	-10.1267	-2.0560	-23.11		
0.51	547	27 Shell-Thick	INVSLE Combination	-10.1985	-1.9529	-23.65		
0.99	547	27 Shell-Thick	INVSLE Combination	-7.4409	-1.3361	-23.65		
0.99	547	27 Shell-Thick	INVSLE Combination	-7.3762	-1.4348	-23.11		
0.81	547	27 Shell-Thick	INVSLE Combination	-7.6009	-1.6096	-17.38		
0.81	547	27 Shell-Thick	INVSLE Combination	-7.8464	-1.4294	-18.31		
1.63	547	27 Shell-Thick	INVSLE Combination	-5.7203	-0.9589	-18.31		
1.63	547	27 Shell-Thick	INVSLE Combination	-5.5232	-1.1071	-17.38		
0.33	547	27 Shell-Thick	INVSLE Combination	-19.3306	-3.8242	-44.07		
0.33	547	27 Shell-Thick	INVSLE Combination	-19.1770	-3.7829	-44.31		
0.54	547	27 Shell-Thick	INVSLE Combination	-13.9986	-2.6171	-44.31		
0.54	547	27 Shell-Thick	INVSLE Combination	-14.1003	-2.6932	-44.07		
1.17	548	28 Shell-Thick	INVSLE Combination	-4.0015	-0.8401	-11.66		
1.17	548	28 Shell-Thick	INVSLE Combination	-4.0726	-0.6394	-12.23		
1.67	548	28 Shell-Thick	INVSLE Combination	-2.6509	-0.2918	-12.23		
1.67	548	28 Shell-Thick	INVSLE Combination	-2.6099	-0.4725	-11.66		
0.97	548	28 Shell-Thick	INVSLE Combination	-7.2218	-1.4250	-20.92		
0.97	548	28 Shell-Thick	INVSLE Combination	-7.2077	-1.2684	-21.35		
1.34	548	28 Shell-Thick	INVSLE Combination	-4.7158	-0.6608	-21.35		
1.34	548	28 Shell-Thick	INVSLE Combination	-4.7346	-0.8145	-20.92		
1.57	548	28 Shell-Thick	INVSLE Combination	-5.4021	-1.1341	-15.73		
1.57	548	28 Shell-Thick	INVSLE Combination	-5.4981	-0.8632	-16.51		
2.26	548	28 Shell-Thick	INVSLE Combination	-3.5787	-0.3939	-16.51		
2.26	548	28 Shell-Thick	INVSLE Combination	-3.5234	-0.6379	-15.73		
0.56	548	28 Shell-Thick	INVSLE Combination	-13.8136	-2.6223	-39.89		
0.56	548	28 Shell-Thick	INVSLE Combination	-13.6250	-2.5559	-40.02		
0.67	548	28 Shell-Thick	INVSLE Combination	-8.9425	-1.4162	-40.02		
0.67	548	28 Shell-Thick	INVSLE Combination	-9.0837	-1.5144	-39.89		
1.64	549	29 Shell-Thick	INVSLE Combination	-2.5584	-0.4947	-10.45		
1.64	549	29 Shell-Thick	INVSLE Combination	-2.5466	-0.2384	-10.93		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 177 di 416
2.05	549	29 Shell-Thick	INVSLE Combination	-1.2748	0.0978	-10.93		
2.05	549	29 Shell-Thick	INVSLE Combination	-1.3115	-0.1421	-10.45		
1.32	549	29 Shell-Thick	INVSLE Combination	-4.6385	-0.8123	-18.77		
1.32	549	29 Shell-Thick	INVSLE Combination	-4.5663	-0.6139	-19.10		
1.62	549	29 Shell-Thick	INVSLE Combination	-2.3356	-0.0380	-19.10		
1.62	549	29 Shell-Thick	INVSLE Combination	-2.4094	-0.2355	-18.77		
2.21	549	29 Shell-Thick	INVSLE Combination	-3.4538	-0.6679	-14.11		
2.21	549	29 Shell-Thick	INVSLE Combination	-3.4379	-0.3218	-14.76		
2.77	549	29 Shell-Thick	INVSLE Combination	-1.7210	0.1320	-14.76		
2.77	549	29 Shell-Thick	INVSLE Combination	-1.7705	-0.1919	-14.11		
0.69	549	29 Shell-Thick	INVSLE Combination	-8.8965	-1.4623	-35.78		
0.69	549	29 Shell-Thick	INVSLE Combination	-8.7006	-1.3826	-35.83		
0.73	549	29 Shell-Thick	INVSLE Combination	-4.5069	-0.3160	-35.83		
0.73	549	29 Shell-Thick	INVSLE Combination	-4.6568	-0.4265	-35.78		
2.02	550	30 Shell-Thick	INVSLE Combination	-1.2896	-0.1657	-9.27		
2.02	550	30 Shell-Thick	INVSLE Combination	-1.2203	0.1366	-9.66		
2.37	550	30 Shell-Thick	INVSLE Combination	-0.0950	0.5384	-9.66		
2.37	550	30 Shell-Thick	INVSLE Combination	-0.1852	0.3077	-9.27		
1.60	550	30 Shell-Thick	INVSLE Combination	-2.3564	-0.2393	-16.64		
1.60	550	30 Shell-Thick	INVSLE Combination	-2.2577	-0.0081	-16.90		
1.83	550	30 Shell-Thick	INVSLE Combination	-0.2820	0.4577	-16.90		
1.83	550	30 Shell-Thick	INVSLE Combination	-0.3817	0.1693	-16.64		
2.73	550	30 Shell-Thick	INVSLE Combination	-1.7409	-0.2236	-12.52		
2.73	550	30 Shell-Thick	INVSLE Combination	-1.6474	0.1843	-13.04		
3.20	550	30 Shell-Thick	INVSLE Combination	-0.1282	0.7390	-13.04		
3.20	550	30 Shell-Thick	INVSLE Combination	-0.2500	0.5910	-12.52		
0.74	550	30 Shell-Thick	INVSLE Combination	-4.5402	-0.3900	-31.73		
0.74	550	30 Shell-Thick	INVSLE Combination	-4.3812	-0.3041	-31.72		
0.73	550	30 Shell-Thick	INVSLE Combination	-0.6650	0.6179	-31.72		
0.73	550	30 Shell-Thick	INVSLE Combination	-0.7840	0.2286	-31.73		
2.34	551	31 Shell-Thick	INVSLE Combination	-0.1878	0.2993	-8.10		
2.34	551	31 Shell-Thick	INVSLE Combination	-0.0770	0.5550	-8.42		
2.62	551	31 Shell-Thick	INVSLE Combination	1.4707	1.0531	-8.42		
2.62	551	31 Shell-Thick	INVSLE Combination	1.3561	0.7968	-8.10		
1.82	551	31 Shell-Thick	INVSLE Combination	-0.3691	0.1454	-14.55		
1.82	551	31 Shell-Thick	INVSLE Combination	-0.2539	0.4847	-14.74		
1.99	551	31 Shell-Thick	INVSLE Combination	0.9047	0.7814	-14.74		
1.99	551	31 Shell-Thick	INVSLE Combination	0.7767	0.4535	-14.55		
3.16	551	31 Shell-Thick	INVSLE Combination	-0.2536	0.6141	-10.94		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 178 di 416
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3.16	551	31 Shell-Thick	INVS LU Combination	-0.1040	0.7599	-11.37		
3.54	551	31 Shell-Thick	INVS LU Combination	2.6292	1.6094	-11.37		
3.54	551	31 Shell-Thick	INVS LU Combination	2.5420	1.4996	-10.94		
0.75	551	31 Shell-Thick	INVS LU Combination	-0.7402	0.1963	-27.74		
0.75	551	31 Shell-Thick	INVS LU Combination	-0.6159	0.6543	-27.68		
0.70	551	31 Shell-Thick	INVS LU Combination	1.2214	1.0549	-27.68		
0.70	551	31 Shell-Thick	INVS LU Combination	1.0486	0.6122	-27.74		
2.60	552	32 Shell-Thick	INVS LE Combination	1.3467	0.7855	-6.95		
2.60	552	32 Shell-Thick	INVS LE Combination	1.4571	1.0598	-7.21		
2.82	552	32 Shell-Thick	INVS LE Combination	2.9357	1.5094	-7.21		
2.82	552	32 Shell-Thick	INVS LE Combination	2.8258	1.2347	-6.95		
1.98	552	32 Shell-Thick	INVS LE Combination	0.7591	0.4303	-12.49		
1.98	552	32 Shell-Thick	INVS LE Combination	0.8948	0.7991	-12.63		
2.10	552	32 Shell-Thick	INVS LE Combination	1.7359	1.0678	-12.63		
2.10	552	32 Shell-Thick	INVS LE Combination	1.5859	0.7083	-12.49		
3.51	552	32 Shell-Thick	INVS LU Combination	2.5496	1.5127	-9.39		
3.51	552	32 Shell-Thick	INVS LU Combination	2.6080	1.5935	-9.73		
3.80	552	32 Shell-Thick	INVS LU Combination	5.3917	2.4135	-9.73		
3.80	552	32 Shell-Thick	INVS LU Combination	5.3639	2.3123	-9.39		
0.71	552	32 Shell-Thick	INVS LU Combination	1.0247	0.5809	-23.81		
0.71	552	32 Shell-Thick	INVS LU Combination	1.2080	1.0788	-23.72		
0.64	552	32 Shell-Thick	INVS LU Combination	2.3434	1.4415	-23.72		
0.64	552	32 Shell-Thick	INVS LU Combination	2.1409	0.9563	-23.81		
2.80	553	33 Shell-Thick	INVS LE Combination	2.7948	1.2218	-5.82		
2.80	553	33 Shell-Thick	INVS LE Combination	2.9016	1.5093	-6.02		
2.97	553	33 Shell-Thick	INVS LE Combination	4.1377	1.8965	-6.02		
2.97	553	33 Shell-Thick	INVS LE Combination	4.0319	1.6083	-5.82		
2.10	553	33 Shell-Thick	INVS LE Combination	1.5570	0.6866	-10.45		
2.10	553	33 Shell-Thick	INVS LE Combination	1.7102	1.0786	-10.55		
2.19	553	33 Shell-Thick	INVS LE Combination	2.4129	1.3120	-10.55		
2.19	553	33 Shell-Thick	INVS LE Combination	2.2483	0.9276	-10.45		
3.78	553	33 Shell-Thick	INVS LU Combination	5.3286	2.3174	-7.86		
3.78	553	33 Shell-Thick	INVS LU Combination	5.3405	2.3911	-8.12		
4.01	553	33 Shell-Thick	INVS LU Combination	7.6681	3.0931	-8.12		
4.01	553	33 Shell-Thick	INVS LU Combination	7.6828	3.0016	-7.86		
0.65	553	33 Shell-Thick	INVS LU Combination	2.1020	0.9269	-19.92		
0.65	553	33 Shell-Thick	INVS LU Combination	2.3087	1.4561	-19.83		
0.57	553	33 Shell-Thick	INVS LU Combination	3.2574	1.7712	-19.83		
0.57	553	33 Shell-Thick	INVS LU Combination	3.0352	1.2522	-19.92		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 179 di 416
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2.96	554	34 Shell-Thick	INVSLE Combination	3.9969	1.5954	-4.70		
2.96	554	34 Shell-Thick	INVSLE Combination	4.0872	1.8923	-4.85		
3.09	554	34 Shell-Thick	INVSLE Combination	5.0845	2.2158	-4.85		
3.09	554	34 Shell-Thick	INVSLE Combination	4.9947	1.9184	-4.70		
2.18	554	34 Shell-Thick	INVSLE Combination	2.2168	0.9083	-8.44		
2.18	554	34 Shell-Thick	INVSLE Combination	2.3775	1.3179	-8.51		
2.24	554	34 Shell-Thick	INVSLE Combination	2.9442	1.5131	-8.51		
2.24	554	34 Shell-Thick	INVSLE Combination	2.7743	1.1095	-8.44		
3.99	554	34 Shell-Thick	INVSLE Combination	7.6407	3.0019	-6.34		
3.99	554	34 Shell-Thick	INVSLE Combination	7.5867	3.0681	-6.54		
4.17	554	34 Shell-Thick	INVSLE Combination	9.4654	3.6542	-6.54		
4.17	554	34 Shell-Thick	INVSLE Combination	9.5398	3.5744	-6.34		
0.58	554	34 Shell-Thick	INVSLE Combination	2.9927	1.2261	-16.08		
0.58	554	34 Shell-Thick	INVSLE Combination	3.2097	1.7792	-15.99		
0.50	554	34 Shell-Thick	INVSLE Combination	3.9747	2.0427	-15.99		
0.50	554	34 Shell-Thick	INVSLE Combination	3.7454	1.4978	-16.08		
3.08	555	35 Shell-Thick	INVSLE Combination	4.9540	1.9065	-3.59		
3.08	555	35 Shell-Thick	INVSLE Combination	5.0356	2.2098	-3.70		
3.17	555	35 Shell-Thick	INVSLE Combination	5.7966	2.4608	-3.70		
3.17	555	35 Shell-Thick	INVSLE Combination	5.7156	2.1571	-3.59		
2.24	555	35 Shell-Thick	INVSLE Combination	2.7423	1.0932	-6.44		
2.24	555	35 Shell-Thick	INVSLE Combination	2.9088	1.5158	-6.49		
2.28	555	35 Shell-Thick	INVSLE Combination	3.3411	1.6681	-6.49		
2.28	555	35 Shell-Thick	INVSLE Combination	3.1678	1.2500	-6.44		
4.16	555	35 Shell-Thick	INVSLE Combination	9.4813	3.5714	-4.84		
4.16	555	35 Shell-Thick	INVSLE Combination	9.3890	3.6302	-4.99		
4.28	555	35 Shell-Thick	INVSLE Combination	10.8229	4.0833	-4.99		
4.28	555	35 Shell-Thick	INVSLE Combination	10.9309	4.0140	-4.84		
0.51	555	35 Shell-Thick	INVSLE Combination	3.7021	1.4758	-12.28		
0.51	555	35 Shell-Thick	INVSLE Combination	3.9268	2.0464	-12.20		
0.44	555	35 Shell-Thick	INVSLE Combination	4.5104	2.2519	-12.20		
0.44	555	35 Shell-Thick	INVSLE Combination	4.2765	1.6875	-12.28		
3.17	556	36 Shell-Thick	INVSLE Combination	5.6835	2.1474	-2.49		
3.17	556	36 Shell-Thick	INVSLE Combination	5.7496	2.4547	-2.56		
3.23	556	36 Shell-Thick	INVSLE Combination	6.2768	2.6319	-2.56		
3.23	556	36 Shell-Thick	INVSLE Combination	6.2107	2.3245	-2.49		
2.27	556	36 Shell-Thick	INVSLE Combination	3.1416	1.2375	-4.46		
2.27	556	36 Shell-Thick	INVSLE Combination	3.3088	1.6690	-4.49		
2.30	556	36 Shell-Thick	INVSLE Combination	3.6081	1.7764	-4.49		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 180 di 416
2.30	556	36 Shell-Thick	INVSLE Combination	3.4361	1.3481	-4.46		
4.27	556	36 Shell-Thick	INVSLU Combination	10.8866	4.0099	-3.36		
4.27	556	36 Shell-Thick	INVSLU Combination	10.7458	4.0631	-3.45		
4.36	556	36 Shell-Thick	INVSLU Combination	11.7395	4.3830	-3.45		
4.36	556	36 Shell-Thick	INVSLU Combination	11.8901	4.3232	-3.36		
0.45	556	36 Shell-Thick	INVSLU Combination	4.2412	1.6706	-8.51		
0.45	556	36 Shell-Thick	INVSLU Combination	4.4668	2.2531	-8.45		
0.39	556	36 Shell-Thick	INVSLU Combination	4.8710	2.3982	-8.45		
0.39	556	36 Shell-Thick	INVSLU Combination	4.6387	1.8200	-8.51		
3.22	557	37 Shell-Thick	INVSLE Combination	6.1834	2.3174	-1.39		
3.22	557	37 Shell-Thick	INVSLE Combination	6.2451	2.6272	-1.43		
3.26	557	37 Shell-Thick	INVSLE Combination	6.5399	2.7264	-1.43		
3.26	557	37 Shell-Thick	INVSLE Combination	6.4778	2.4168	-1.39		
2.30	557	37 Shell-Thick	INVSLE Combination	3.4163	1.3396	-2.49		
2.30	557	37 Shell-Thick	INVSLE Combination	3.5855	1.7764	-2.51		
2.31	557	37 Shell-Thick	INVSLE Combination	3.7528	1.8367	-2.51		
2.31	557	37 Shell-Thick	INVSLE Combination	3.5807	1.4018	-2.49		
4.35	557	37 Shell-Thick	INVSLU Combination	11.8477	4.3189	-1.88		
4.35	557	37 Shell-Thick	INVSLU Combination	11.6894	4.3689	-1.93		
4.40	557	37 Shell-Thick	INVSLU Combination	12.2450	4.5474	-1.93		
4.40	557	37 Shell-Thick	INVSLU Combination	12.4081	4.4944	-1.88		
0.40	557	37 Shell-Thick	INVSLU Combination	4.6119	1.8085	-4.76		
0.40	557	37 Shell-Thick	INVSLU Combination	4.8404	2.3981	-4.72		
0.37	557	37 Shell-Thick	INVSLU Combination	5.0663	2.4795	-4.72		
0.37	557	37 Shell-Thick	INVSLU Combination	4.8340	1.8925	-4.76		
3.26	558	38 Shell-Thick	INVSLE Combination	6.4659	2.4130	-0.30		
3.26	558	38 Shell-Thick	INVSLE Combination	6.5201	2.7239	-0.31		
3.26	558	38 Shell-Thick	INVSLE Combination	6.5835	2.7442	-0.31		
3.26	558	38 Shell-Thick	INVSLE Combination	6.5283	2.4340	-0.30		
2.31	558	38 Shell-Thick	INVSLE Combination	3.5713	1.3977	-0.53		
2.31	558	38 Shell-Thick	INVSLE Combination	3.7402	1.8364	-0.54		
2.31	558	38 Shell-Thick	INVSLE Combination	3.7761	1.8488	-0.54		
2.31	558	38 Shell-Thick	INVSLE Combination	3.6062	1.4107	-0.53		
4.40	558	38 Shell-Thick	INVSLU Combination	12.3910	4.4911	-0.40		
4.40	558	38 Shell-Thick	INVSLU Combination	12.2106	4.5404	-0.41		
4.41	558	38 Shell-Thick	INVSLU Combination	12.3300	4.5771	-0.41		
4.41	558	38 Shell-Thick	INVSLU Combination	12.5096	4.5284	-0.40		
0.37	558	38 Shell-Thick	INVSLU Combination	4.8212	1.8869	-1.01		
0.37	558	38 Shell-Thick	INVSLU Combination	5.0492	2.4791	-1.01		

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0.36	558	38 Shell-Thick	INVSLU Combination	5.0977	2.4958	-1.01		
0.36	558	38 Shell-Thick	INVSLU Combination	4.8684	1.9045	-1.01		
3.26	559	39 Shell-Thick	INVSLE Combination	6.5254	2.4334	1.43		
3.26	559	39 Shell-Thick	INVSLE Combination	6.5841	2.7443	1.44		
3.25	559	39 Shell-Thick	INVSLE Combination	6.4162	2.6856	1.44		
3.25	559	39 Shell-Thick	INVSLE Combination	6.3559	2.3757	1.43		
2.31	559	39 Shell-Thick	INVSLE Combination	3.6057	1.4111	0.80		
2.31	559	39 Shell-Thick	INVSLE Combination	3.7767	1.8485	0.82		
2.30	559	39 Shell-Thick	INVSLE Combination	3.6813	1.8127	0.82		
2.30	559	39 Shell-Thick	INVSLE Combination	3.5112	1.3747	0.80		
4.41	559	39 Shell-Thick	INVSLU Combination	12.5018	4.5261	2.72		
4.41	559	39 Shell-Thick	INVSLU Combination	12.3308	4.5780	2.70		
4.38	559	39 Shell-Thick	INVSLU Combination	12.0144	4.4723	2.70		
4.38	559	39 Shell-Thick	INVSLU Combination	12.1790	4.4248	2.72		
0.36	559	39 Shell-Thick	INVSLU Combination	4.8677	1.9049	1.07		
0.36	559	39 Shell-Thick	INVSLU Combination	5.0986	2.4954	1.10		
0.38	559	39 Shell-Thick	INVSLU Combination	4.9698	2.4471	1.10		
0.38	559	39 Shell-Thick	INVSLU Combination	4.7401	1.8559	1.07		
3.25	560	40 Shell-Thick	INVSLE Combination	6.3690	2.3786	3.39		
3.25	560	40 Shell-Thick	INVSLE Combination	6.4299	2.6881	3.41		
3.20	560	40 Shell-Thick	INVSLE Combination	6.0301	2.5505	3.41		
3.20	560	40 Shell-Thick	INVSLE Combination	5.9673	2.2423	3.39		
2.31	560	40 Shell-Thick	INVSLE Combination	3.5215	1.3795	1.89		
2.31	560	40 Shell-Thick	INVSLE Combination	3.6927	1.8123	1.94		
2.29	560	40 Shell-Thick	INVSLE Combination	3.4657	1.7288	1.94		
2.29	560	40 Shell-Thick	INVSLE Combination	3.2973	1.2941	1.89		
4.39	560	40 Shell-Thick	INVSLU Combination	12.1976	4.4237	6.47		
4.39	560	40 Shell-Thick	INVSLU Combination	12.0327	4.4808	6.42		
4.32	560	40 Shell-Thick	INVSLU Combination	11.2794	4.2324	6.42		
4.32	560	40 Shell-Thick	INVSLU Combination	11.4326	4.1831	6.47		
0.37	560	40 Shell-Thick	INVSLU Combination	4.7540	1.8623	2.55		
0.37	560	40 Shell-Thick	INVSLU Combination	4.9852	2.4466	2.62		
0.42	560	40 Shell-Thick	INVSLU Combination	4.6787	2.3339	2.62		
0.42	560	40 Shell-Thick	INVSLU Combination	4.4514	1.7471	2.55		
3.21	561	41 Shell-Thick	INVSLE Combination	5.9869	2.2480	5.36		
3.21	561	41 Shell-Thick	INVSLE Combination	6.0610	2.5548	5.40		
3.13	561	41 Shell-Thick	INVSLE Combination	5.4284	2.3419	5.40		
3.13	561	41 Shell-Thick	INVSLE Combination	5.3518	2.0368	5.36		
2.29	561	41 Shell-Thick	INVSLE Combination	3.3150	1.3031	2.99		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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2.29	561	41 Shell-Thick	INVSLE Combination	3.4881	1.7279	3.07		
2.26	561	41 Shell-Thick	INVSLE Combination	3.1288	1.5985	3.07		
2.26	561	41 Shell-Thick	INVSLE Combination	2.9604	1.1706	2.99		
4.33	561	41 Shell-Thick	INVSLE Combination	11.4561	4.1823	10.23		
4.33	561	41 Shell-Thick	INVSLE Combination	11.3276	4.2475	10.16		
4.23	561	41 Shell-Thick	INVSLE Combination	10.1357	3.8636	10.16		
4.23	561	41 Shell-Thick	INVSLE Combination	10.2468	3.8100	10.23		
0.41	561	41 Shell-Thick	INVSLE Combination	4.4752	1.7592	4.03		
0.41	561	41 Shell-Thick	INVSLE Combination	4.7090	2.3326	4.15		
0.47	561	41 Shell-Thick	INVSLE Combination	4.2238	2.1580	4.15		
0.47	561	41 Shell-Thick	INVSLE Combination	3.9965	1.5803	4.03		
3.14	562	42 Shell-Thick	INVSLE Combination	5.3818	2.0450	7.35		
3.14	562	42 Shell-Thick	INVSLE Combination	5.4645	2.3469	7.40		
3.03	562	42 Shell-Thick	INVSLE Combination	4.5970	2.0596	7.40		
3.03	562	42 Shell-Thick	INVSLE Combination	4.5117	1.7595	7.35		
2.26	562	42 Shell-Thick	INVSLE Combination	2.9853	1.1834	4.09		
2.26	562	42 Shell-Thick	INVSLE Combination	3.1566	1.5962	4.22		
2.21	562	42 Shell-Thick	INVSLE Combination	2.6637	1.4226	4.22		
2.21	562	42 Shell-Thick	INVSLE Combination	2.4994	1.0052	4.09		
4.24	562	42 Shell-Thick	INVSLE Combination	10.2875	3.8087	14.02		
4.24	562	42 Shell-Thick	INVSLE Combination	10.1887	3.8836	13.93		
4.09	562	42 Shell-Thick	INVSLE Combination	8.5545	3.3634	13.93		
4.09	562	42 Shell-Thick	INVSLE Combination	8.6309	3.3035	14.02		
0.46	562	42 Shell-Thick	INVSLE Combination	4.0301	1.5976	5.53		
0.46	562	42 Shell-Thick	INVSLE Combination	4.2614	2.1549	5.69		
0.54	562	42 Shell-Thick	INVSLE Combination	3.5960	1.9205	5.69		
0.54	562	42 Shell-Thick	INVSLE Combination	3.3741	1.3570	5.53		
3.04	563	43 Shell-Thick	INVSLE Combination	4.5394	1.7691	9.35		
3.04	563	43 Shell-Thick	INVSLE Combination	4.6385	2.0638	9.43		
2.90	563	43 Shell-Thick	INVSLE Combination	3.5339	1.7100	9.43		
2.90	563	43 Shell-Thick	INVSLE Combination	3.4317	1.4175	9.35		
2.22	563	43 Shell-Thick	INVSLE Combination	2.5258	1.0214	5.21		
2.22	563	43 Shell-Thick	INVSLE Combination	2.6942	1.4178	5.38		
2.15	563	43 Shell-Thick	INVSLE Combination	2.0663	1.2041	5.38		
2.15	563	43 Shell-Thick	INVSLE Combination	1.9071	0.8015	5.21		
4.11	563	43 Shell-Thick	INVSLE Combination	8.6611	3.2997	17.83		
4.11	563	43 Shell-Thick	INVSLE Combination	8.6183	3.3860	17.74		
3.91	563	43 Shell-Thick	INVSLE Combination	6.5381	2.7454	17.74		
3.91	563	43 Shell-Thick	INVSLE Combination	6.5525	2.6782	17.83		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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0.53	563	43 Shell-Thick	INVSLU Combination	3.4098	1.3789	7.03		
0.53	563	43 Shell-Thick	INVSLU Combination	3.6372	1.9141	7.26		
0.61	563	43 Shell-Thick	INVSLU Combination	2.7895	1.6255	7.26		
0.61	563	43 Shell-Thick	INVSLU Combination	2.5745	1.0821	7.03		
2.91	564	44 Shell-Thick	INVSLE Combination	3.4583	1.4276	11.37		
2.91	564	44 Shell-Thick	INVSLE Combination	3.5644	1.7112	11.49		
2.72	564	44 Shell-Thick	INVSLE Combination	2.2194	1.2919	11.49		
2.72	564	44 Shell-Thick	INVSLE Combination	2.1105	1.0103	11.37		
2.15	564	44 Shell-Thick	INVSLE Combination	1.9330	0.8205	6.34		
2.15	564	44 Shell-Thick	INVSLE Combination	2.0909	1.1953	6.55		
2.05	564	44 Shell-Thick	INVSLE Combination	1.3260	0.9441	6.55		
2.05	564	44 Shell-Thick	INVSLE Combination	1.1799	0.5614	6.34		
3.93	564	44 Shell-Thick	INVSLU Combination	6.5805	2.6705	21.69		
3.93	564	44 Shell-Thick	INVSLU Combination	6.5806	2.7672	21.60		
3.67	564	44 Shell-Thick	INVSLU Combination	4.0481	2.0039	21.60		
3.67	564	44 Shell-Thick	INVSLU Combination	4.0152	1.9291	21.69		
0.60	564	44 Shell-Thick	INVSLU Combination	2.6095	1.1076	8.55		
0.60	564	44 Shell-Thick	INVSLU Combination	2.8228	1.6136	8.85		
0.68	564	44 Shell-Thick	INVSLU Combination	1.7900	1.2746	8.85		
0.68	564	44 Shell-Thick	INVSLU Combination	1.5929	0.7579	8.55		
2.74	565	45 Shell-Thick	INVSLE Combination	2.1201	1.0195	13.42		
2.74	565	45 Shell-Thick	INVSLE Combination	2.2348	1.2878	13.58		
2.50	565	45 Shell-Thick	INVSLE Combination	0.6461	0.8160	13.58		
2.50	565	45 Shell-Thick	INVSLE Combination	0.5284	0.5498	13.42		
2.06	565	45 Shell-Thick	INVSLE Combination	1.1976	0.5822	7.48		
2.06	565	45 Shell-Thick	INVSLE Combination	1.3389	0.9294	7.75		
1.92	565	45 Shell-Thick	INVSLE Combination	0.4347	0.6474	7.75		
1.92	565	45 Shell-Thick	INVSLE Combination	0.3081	0.2905	7.48		
3.70	565	45 Shell-Thick	INVSLU Combination	4.0083	1.9146	25.59		
3.70	565	45 Shell-Thick	INVSLU Combination	4.0687	2.0212	25.52		
3.37	565	45 Shell-Thick	INVSLU Combination	1.0788	1.1611	25.52		
3.37	565	45 Shell-Thick	INVSLU Combination	0.9793	1.0806	25.59		
0.66	565	45 Shell-Thick	INVSLU Combination	1.6168	0.7860	10.09		
0.66	565	45 Shell-Thick	INVSLU Combination	1.8075	1.2547	10.47		
0.73	565	45 Shell-Thick	INVSLU Combination	0.5868	0.8740	10.47		
0.73	565	45 Shell-Thick	INVSLU Combination	0.4160	0.3921	10.09		
2.52	566	46 Shell-Thick	INVSLE Combination	0.5198	0.5568	15.50		
2.52	566	46 Shell-Thick	INVSLE Combination	0.6270	0.8035	15.72		
2.22	566	46 Shell-Thick	INVSLE Combination	-0.6214	0.3154	15.72		

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2.22	566	46 Shell-Thick	INVSLE Combination	-0.7143	0.0342	15.50		
1.93	566	46 Shell-Thick	INVSLE Combination	0.3137	0.3123	8.63		
1.93	566	46 Shell-Thick	INVSLE Combination	0.4248	0.6247	8.98		
1.73	566	46 Shell-Thick	INVSLE Combination	-1.2101	0.2796	8.98		
1.73	566	46 Shell-Thick	INVSLE Combination	-1.3190	-0.0090	8.63		
3.40	566	46 Shell-Thick	INVSLE Combination	0.9417	1.0572	29.55		
3.40	566	46 Shell-Thick	INVSLE Combination	1.0409	1.1695	29.50		
2.99	566	46 Shell-Thick	INVSLE Combination	-0.8388	0.4258	29.50		
2.99	566	46 Shell-Thick	INVSLE Combination	-0.9642	0.1225	29.55		
0.71	566	46 Shell-Thick	INVSLE Combination	0.4235	0.4216	11.65		
0.71	566	46 Shell-Thick	INVSLE Combination	0.5735	0.8434	12.12		
0.75	566	46 Shell-Thick	INVSLE Combination	-2.4153	0.2063	12.12		
0.75	566	46 Shell-Thick	INVSLE Combination	-2.5570	-0.0122	11.65		
2.24	567	47 Shell-Thick	INVSLE Combination	-0.7297	0.0372	17.60		
2.24	567	47 Shell-Thick	INVSLE Combination	-0.6627	0.2822	17.89		
1.87	567	47 Shell-Thick	INVSLE Combination	-1.8536	-0.0455	17.89		
1.87	567	47 Shell-Thick	INVSLE Combination	-1.8986	-0.3294	17.60		
1.75	567	47 Shell-Thick	INVSLE Combination	-1.3627	0.0129	9.81		
1.75	567	47 Shell-Thick	INVSLE Combination	-1.2723	0.2555	10.23		
1.49	567	47 Shell-Thick	INVSLE Combination	-3.3617	-0.3028	10.23		
1.49	567	47 Shell-Thick	INVSLE Combination	-3.4533	-0.5202	9.81		
3.03	567	47 Shell-Thick	INVSLE Combination	-0.9851	0.0869	33.56		
3.03	567	47 Shell-Thick	INVSLE Combination	-0.8947	0.3810	33.57		
2.53	567	47 Shell-Thick	INVSLE Combination	-2.5023	-0.0614	33.57		
2.53	567	47 Shell-Thick	INVSLE Combination	-2.5631	-0.4446	33.56		
0.73	567	47 Shell-Thick	INVSLE Combination	-2.6583	0.0174	13.24		
0.73	567	47 Shell-Thick	INVSLE Combination	-2.5200	0.2007	13.81		
0.72	567	47 Shell-Thick	INVSLE Combination	-6.4488	-0.8295	13.81		
0.72	567	47 Shell-Thick	INVSLE Combination	-6.6355	-0.9108	13.24		
1.90	568	48 Shell-Thick	INVSLE Combination	-1.9406	-0.3084	19.74		
1.90	568	48 Shell-Thick	INVSLE Combination	-1.9389	-0.0919	20.11		
1.45	568	48 Shell-Thick	INVSLE Combination	-3.2779	-0.4343	20.11		
1.45	568	48 Shell-Thick	INVSLE Combination	-3.2527	-0.6684	19.74		
1.51	568	48 Shell-Thick	INVSLE Combination	-3.5362	-0.5226	11.00		
1.51	568	48 Shell-Thick	INVSLE Combination	-3.4872	-0.3421	11.51		
1.18	568	48 Shell-Thick	INVSLE Combination	-5.8346	-0.9360	11.51		
1.18	568	48 Shell-Thick	INVSLE Combination	-5.8823	-1.1172	11.00		
2.57	568	48 Shell-Thick	INVSLE Combination	-2.6199	-0.4163	37.64		
2.57	568	48 Shell-Thick	INVSLE Combination	-2.6176	-0.1241	37.72		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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1.96	568	48 Shell-Thick	INVS LU Combination	-4.4251	-0.5863	37.72		
1.96	568	48 Shell-Thick	INVS LU Combination	-4.3912	-0.9024	37.64		
0.70	568	48 Shell-Thick	INVS LU Combination	-6.8022	-0.9610	14.84		
0.70	568	48 Shell-Thick	INVS LU Combination	-6.6563	-0.8542	15.54		
0.63	568	48 Shell-Thick	INVS LU Combination	-11.0682	-1.9629	15.54		
0.63	568	48 Shell-Thick	INVS LU Combination	-11.2649	-2.0357	14.84		
1.49	569	49 Shell-Thick	INVS LE Combination	-3.3296	-0.6493	21.91		
1.49	569	49 Shell-Thick	INVS LE Combination	-3.4181	-0.4968	22.38		
0.94	569	49 Shell-Thick	INVS LE Combination	-4.9083	-0.8437	22.38		
0.94	569	49 Shell-Thick	INVS LE Combination	-4.7876	-1.0175	21.91		
1.20	569	49 Shell-Thick	INVS LE Combination	-6.0185	-1.1266	12.20		
1.20	569	49 Shell-Thick	INVS LE Combination	-6.0367	-0.9942	12.83		
0.79	569	49 Shell-Thick	INVS LE Combination	-8.6467	-1.6031	12.83		
0.79	569	49 Shell-Thick	INVS LE Combination	-8.6251	-1.7376	12.20		
2.01	569	49 Shell-Thick	INVS LU Combination	-4.4949	-0.8766	41.78		
2.01	569	49 Shell-Thick	INVS LU Combination	-4.6145	-0.6706	41.95		
1.27	569	49 Shell-Thick	INVS LU Combination	-6.6262	-1.1390	41.95		
1.27	569	49 Shell-Thick	INVS LU Combination	-6.4632	-1.3736	41.78		
0.61	569	49 Shell-Thick	INVS LU Combination	-11.5226	-2.1035	16.48		
0.61	569	49 Shell-Thick	INVS LU Combination	-11.3967	-2.0123	17.32		
0.47	569	49 Shell-Thick	INVS LU Combination	-16.2992	-3.1576	17.32		
0.47	569	49 Shell-Thick	INVS LU Combination	-16.4803	-3.2117	16.48		
1.00	570	50 Shell-Thick	INVS LE Combination	-4.9356	-0.9932	24.66		
1.00	570	50 Shell-Thick	INVS LE Combination	-5.1964	-0.9552	25.31		
02	570	50 Shell-Thick	INVS LE Combination	-7.7015	-1.4689	25.31	-4.717E-	
02	570	50 Shell-Thick	INVS LE Combination	-7.4193	-1.5553	24.66	-4.717E-	
0.82	570	50 Shell-Thick	INVS LE Combination	-8.8855	-1.7596	13.72		
0.82	570	50 Shell-Thick	INVS LE Combination	-9.0468	-1.7132	14.54		
02	570	50 Shell-Thick	INVS LE Combination	-13.4599	-2.6468	14.54	-7.545E-	
02	570	50 Shell-Thick	INVS LE Combination	-13.2937	-2.7039	13.72	-7.545E-	
1.35	570	50 Shell-Thick	INVS LU Combination	-6.6631	-1.3408	47.04		
1.35	570	50 Shell-Thick	INVS LU Combination	-7.0151	-1.2896	47.37		
02	570	50 Shell-Thick	INVS LU Combination	-10.3970	-1.9830	47.37	1.073E-	
02	570	50 Shell-Thick	INVS LU Combination	-10.0160	-2.0996	47.04	1.073E-	
0.44	570	50 Shell-Thick	INVS LU Combination	-16.9707	-3.3286	18.52		
0.44	570	50 Shell-Thick	INVS LU Combination	-16.9283	-3.2646	19.63		
0.10	570	50 Shell-Thick	INVS LU Combination	-25.2472	-5.0580	19.63	-	
0.10	570	50 Shell-Thick	INVS LU Combination	-25.3182	-5.0551	18.52	-	
0.37	571	620 Shell-Thick	INVS LE Combination	4.0429	0.0637	-2.76		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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0.38	571	620 Shell-Thick	INVSLE Combination	4.7304	0.0710		-2.76	
0.38	571	620 Shell-Thick	INVSLE Combination	4.7474	0.0303		-2.75	
0.37	571	620 Shell-Thick	INVSLE Combination	4.0575	0.0256		-2.75	
0.35	571	620 Shell-Thick	INVSLE Combination	1.5924	0.0023		-5.85	
0.35	571	620 Shell-Thick	INVSLE Combination	1.9178	0.0028		-5.85	
0.35	571	620 Shell-Thick	INVSLE Combination	1.8581	-0.0379		-5.85	
0.35	571	620 Shell-Thick	INVSLE Combination	1.5352	-0.0414		-5.85	
0.50	571	620 Shell-Thick	INVSLE Combination	9.0589	0.1893		-3.72	
0.51	571	620 Shell-Thick	INVSLE Combination	10.4877	0.2106		-3.72	
0.51	571	620 Shell-Thick	INVSLE Combination	10.6616	0.1699		-3.71	
0.50	571	620 Shell-Thick	INVSLE Combination	9.2204	0.1627		-3.71	
0.30	571	620 Shell-Thick	INVSLE Combination	2.1497	0.0030		-12.19	
0.30	571	620 Shell-Thick	INVSLE Combination	2.5890	0.0038		-12.19	
0.30	571	620 Shell-Thick	INVSLE Combination	2.5085	-0.0512		-12.19	
0.30	571	620 Shell-Thick	INVSLE Combination	2.0726	-0.0558		-12.19	
1.07	572	621 Shell-Thick	INVSLE Combination	4.7890	0.2174		-1.95	
1.09	572	621 Shell-Thick	INVSLE Combination	5.2689	0.2371		-1.95	
1.09	572	621 Shell-Thick	INVSLE Combination	5.2451	0.1241		-1.93	
1.07	572	621 Shell-Thick	INVSLE Combination	4.7643	0.1055		-1.93	
0.99	572	621 Shell-Thick	INVSLE Combination	1.9915	0.0288		-4.09	
1.01	572	621 Shell-Thick	INVSLE Combination	2.2205	0.0321		-4.09	
1.01	572	621 Shell-Thick	INVSLE Combination	2.1285	-0.0880		-4.07	
0.99	572	621 Shell-Thick	INVSLE Combination	1.9017	-0.0939		-4.07	
1.44	572	621 Shell-Thick	INVSLE Combination	10.5154	0.6036		-2.63	
1.47	572	621 Shell-Thick	INVSLE Combination	11.5086	0.6568		-2.63	
1.47	572	621 Shell-Thick	INVSLE Combination	11.6245	0.5582		-2.60	
1.44	572	621 Shell-Thick	INVSLE Combination	10.6238	0.5135		-2.60	
0.83	572	621 Shell-Thick	INVSLE Combination	2.6885	0.0389		-8.47	
0.84	572	621 Shell-Thick	INVSLE Combination	2.9977	0.0433		-8.47	
0.84	572	621 Shell-Thick	INVSLE Combination	2.8735	-0.1187		-8.46	
0.83	572	621 Shell-Thick	INVSLE Combination	2.5673	-0.1267		-8.46	
0.38	573	622 Shell-Thick	INVSLE Combination	4.7580	0.0766		-1.93	
0.39	573	622 Shell-Thick	INVSLE Combination	5.2363	0.0776		-1.93	
0.39	573	622 Shell-Thick	INVSLE Combination	5.2638	0.0365		-1.92	
0.38	573	622 Shell-Thick	INVSLE Combination	4.7838	0.0375		-1.92	
0.35	573	622 Shell-Thick	INVSLE Combination	1.9207	0.0053		-4.07	
0.36	573	622 Shell-Thick	INVSLE Combination	2.1478	0.0042		-4.07	
0.36	573	622 Shell-Thick	INVSLE Combination	2.0894	-0.0378		-4.07	
0.35	573	622 Shell-Thick	INVSLE Combination	1.8640	-0.0387		-4.07	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 187 di 416
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0.51	573	622 Shell-Thick	INVSLU Combination	10.5658	0.2226		-2.60	
0.52	573	622 Shell-Thick	INVSLU Combination	11.5581	0.2277		-2.60	
0.52	573	622 Shell-Thick	INVSLU Combination	11.7616	0.1886		-2.59	
0.51	573	622 Shell-Thick	INVSLU Combination	10.7606	0.1934		-2.59	
0.30	573	622 Shell-Thick	INVSLU Combination	2.5929	0.0072		-8.47	
0.30	573	622 Shell-Thick	INVSLU Combination	2.8996	0.0057		-8.47	
0.30	573	622 Shell-Thick	INVSLU Combination	2.8206	-0.0511		-8.47	
0.30	573	622 Shell-Thick	INVSLU Combination	2.5164	-0.0522		-8.47	
1.09	574	623 Shell-Thick	INVSLE Combination	5.2812	0.2405		-1.09	
1.10	574	623 Shell-Thick	INVSLE Combination	5.5498	0.2497		-1.09	
1.10	574	623 Shell-Thick	INVSLE Combination	5.5332	0.1356		-1.08	
1.09	574	623 Shell-Thick	INVSLE Combination	5.2641	0.1270		-1.08	
1.01	574	623 Shell-Thick	INVSLE Combination	2.2221	0.0344		-2.29	
1.02	574	623 Shell-Thick	INVSLE Combination	2.3505	0.0357		-2.29	
1.02	574	623 Shell-Thick	INVSLE Combination	2.2593	-0.0865		-2.28	
1.01	574	623 Shell-Thick	INVSLE Combination	2.1321	-0.0892		-2.28	
1.47	574	623 Shell-Thick	INVSLU Combination	11.5429	0.6624		-1.47	
1.48	574	623 Shell-Thick	INVSLU Combination	12.0985	0.6878		-1.47	
1.48	574	623 Shell-Thick	INVSLU Combination	12.2348	0.5904		-1.46	
1.47	574	623 Shell-Thick	INVSLU Combination	11.6751	0.5696		-1.46	
0.84	574	623 Shell-Thick	INVSLU Combination	2.9998	0.0465		-4.74	
0.85	574	623 Shell-Thick	INVSLU Combination	3.1732	0.0482		-4.74	
0.85	574	623 Shell-Thick	INVSLU Combination	3.0500	-0.1168		-4.73	
0.84	574	623 Shell-Thick	INVSLU Combination	2.8784	-0.1205		-4.73	
0.38	575	624 Shell-Thick	INVSLE Combination	5.2550	0.0811		-1.08	
0.39	575	624 Shell-Thick	INVSLE Combination	5.5227	0.0837		-1.08	
0.39	575	624 Shell-Thick	INVSLE Combination	5.5544	0.0426		-1.08	
0.38	575	624 Shell-Thick	INVSLE Combination	5.2857	0.0411		-1.08	
0.36	575	624 Shell-Thick	INVSLE Combination	2.1508	0.0060		-2.28	
0.36	575	624 Shell-Thick	INVSLE Combination	2.2781	0.0059		-2.28	
0.36	575	624 Shell-Thick	INVSLE Combination	2.2199	-0.0371		-2.28	
0.36	575	624 Shell-Thick	INVSLE Combination	2.0935	-0.0381		-2.28	
0.52	575	624 Shell-Thick	INVSLU Combination	11.6092	0.2349		-1.46	
0.53	575	624 Shell-Thick	INVSLU Combination	12.1643	0.2430		-1.46	
0.53	575	624 Shell-Thick	INVSLU Combination	12.3799	0.2057		-1.45	
0.52	575	624 Shell-Thick	INVSLU Combination	11.8198	0.2033		-1.45	
0.31	575	624 Shell-Thick	INVSLU Combination	2.9036	0.0080		-4.74	
0.31	575	624 Shell-Thick	INVSLU Combination	3.0755	0.0080		-4.74	
0.31	575	624 Shell-Thick	INVSLU Combination	2.9969	-0.0501		-4.74	

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 188 di 416
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0.31	575	624 Shell-Thick	INVSLU Combination	2.8263	-0.0515	-4.74		
1.10	576	625 Shell-Thick	INVSLE Combination	5.5552	0.2509	-0.23		
1.10	576	625 Shell-Thick	INVSLE Combination	5.6120	0.2536	-0.23		
1.10	576	625 Shell-Thick	INVSLE Combination	5.5950	0.1391	-0.23		
1.10	576	625 Shell-Thick	INVSLE Combination	5.5383	0.1365	-0.23		
1.02	576	625 Shell-Thick	INVSLE Combination	2.3512	0.0366	-0.48		
1.02	576	625 Shell-Thick	INVSLE Combination	2.3781	0.0372	-0.48		
1.02	576	625 Shell-Thick	INVSLE Combination	2.2865	-0.0863	-0.48		
1.02	576	625 Shell-Thick	INVSLE Combination	2.2598	-0.0872	-0.48		
1.48	576	625 Shell-Thick	INVSLE Combination	12.1138	0.6896	-0.31		
1.48	576	625 Shell-Thick	INVSLE Combination	12.2315	0.6965	-0.31		
1.48	576	625 Shell-Thick	INVSLE Combination	12.3674	0.6006	-0.31		
1.48	576	625 Shell-Thick	INVSLE Combination	12.2491	0.5945	-0.31		
0.85	576	625 Shell-Thick	INVSLE Combination	3.1741	0.0494	-1.00		
0.85	576	625 Shell-Thick	INVSLE Combination	3.2105	0.0502	-1.00		
0.85	576	625 Shell-Thick	INVSLE Combination	3.0868	-0.1165	-1.00		
0.85	576	625 Shell-Thick	INVSLE Combination	3.0508	-0.1177	-1.00		
0.39	577	626 Shell-Thick	INVSLE Combination	5.5279	0.0848	-0.23		
0.39	577	626 Shell-Thick	INVSLE Combination	5.5844	0.0856	-0.23		
0.39	577	626 Shell-Thick	INVSLE Combination	5.6192	0.0447	-0.23		
0.39	577	626 Shell-Thick	INVSLE Combination	5.5625	0.0442	-0.23		
0.36	577	626 Shell-Thick	INVSLE Combination	2.2785	0.0066	-0.48		
0.36	577	626 Shell-Thick	INVSLE Combination	2.3052	0.0067	-0.48		
0.36	577	626 Shell-Thick	INVSLE Combination	2.2478	-0.0370	-0.48		
0.36	577	626 Shell-Thick	INVSLE Combination	2.2213	-0.0373	-0.48		
0.52	577	626 Shell-Thick	INVSLE Combination	12.1792	0.2450	-0.31		
0.53	577	626 Shell-Thick	INVSLE Combination	12.2967	0.2472	-0.31		
0.53	577	626 Shell-Thick	INVSLE Combination	12.5203	0.2121	-0.30		
0.53	577	626 Shell-Thick	INVSLE Combination	12.4018	0.2111	-0.30		
0.52	577	626 Shell-Thick	INVSLE Combination	3.0760	0.0089	-1.00		
0.31	577	626 Shell-Thick	INVSLE Combination	3.1120	0.0090	-1.00		
0.31	577	626 Shell-Thick	INVSLE Combination	3.0345	-0.0500	-1.00		
0.31	577	626 Shell-Thick	INVSLE Combination	2.9988	-0.0504	-1.00		
1.10	578	627 Shell-Thick	INVSLE Combination	5.6044	0.2522	1.32		
1.09	578	627 Shell-Thick	INVSLE Combination	5.4491	0.2479	1.32		
1.09	578	627 Shell-Thick	INVSLE Combination	5.4334	0.1339	1.32		
1.10	578	627 Shell-Thick	INVSLE Combination	5.5891	0.1378	1.32		
1.02	578	627 Shell-Thick	INVSLE Combination	2.3756	0.0365	0.63		
1.01	578	627 Shell-Thick	INVSLE Combination	2.3009	0.0362	0.63		

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 189 di 416
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1.01	578	627 Shell-Thick	INVSLE Combination	2.2105	-0.0877		0.63	
1.02	578	627 Shell-Thick	INVSLE Combination	2.2845	-0.0865		0.63	
1.48	578	627 Shell-Thick	INVSLU Combination	12.2134	0.6938		2.73	
1.48	578	627 Shell-Thick	INVSLU Combination	11.8932	0.6813		2.73	
1.48	578	627 Shell-Thick	INVSLU Combination	12.0305	0.5875		2.73	
1.48	578	627 Shell-Thick	INVSLU Combination	12.3536	0.5969		2.73	
0.85	578	627 Shell-Thick	INVSLU Combination	3.2071	0.0493		0.86	
0.85	578	627 Shell-Thick	INVSLU Combination	3.1062	0.0488		0.86	
0.85	578	627 Shell-Thick	INVSLU Combination	2.9842	-0.1184		0.85	
0.85	578	627 Shell-Thick	INVSLU Combination	3.0840	-0.1168		0.85	
0.39	579	628 Shell-Thick	INVSLE Combination	5.5783	0.0843		1.32	
0.39	579	628 Shell-Thick	INVSLE Combination	5.4235	0.0837		1.32	
0.39	579	628 Shell-Thick	INVSLE Combination	5.4559	0.0434		1.32	
0.39	579	628 Shell-Thick	INVSLE Combination	5.6114	0.0432		1.32	
0.36	579	628 Shell-Thick	INVSLE Combination	2.3032	0.0061		0.63	
0.36	579	628 Shell-Thick	INVSLE Combination	2.2291	0.0066		0.63	
0.36	579	628 Shell-Thick	INVSLE Combination	2.1717	-0.0375		0.63	
0.36	579	628 Shell-Thick	INVSLE Combination	2.2452	-0.0373		0.63	
0.53	579	628 Shell-Thick	INVSLU Combination	12.2823	0.2445		2.73	
0.52	579	628 Shell-Thick	INVSLU Combination	11.9622	0.2418		2.73	
0.52	579	628 Shell-Thick	INVSLU Combination	12.1785	0.2090		2.73	
0.53	579	628 Shell-Thick	INVSLU Combination	12.5018	0.2082		2.73	
0.31	579	628 Shell-Thick	INVSLU Combination	3.1093	0.0082		0.85	
0.31	579	628 Shell-Thick	INVSLU Combination	3.0093	0.0088		0.85	
0.31	579	628 Shell-Thick	INVSLU Combination	2.9318	-0.0506		0.84	
0.31	579	628 Shell-Thick	INVSLU Combination	3.0311	-0.0504		0.84	
02	580	51 Shell-Thick	INVSLE Combination	-7.8258	-1.6171		-14.91	-2.862E-
02	580	51 Shell-Thick	INVSLE Combination	-8.0976	-1.5675		-15.68	-2.862E-
0.62	580	51 Shell-Thick	INVSLE Combination	-6.2781	-1.1945		-15.68	
0.62	580	51 Shell-Thick	INVSLE Combination	-6.0420	-1.2206		-14.91	
02	580	51 Shell-Thick	INVSLE Combination	-13.6082	-2.7492		-25.98	-5.472E-
02	580	51 Shell-Thick	INVSLE Combination	-13.7283	-2.7181		-26.57	-5.472E-
0.49	580	51 Shell-Thick	INVSLE Combination	-10.6332	-2.0658		-26.57	
0.49	580	51 Shell-Thick	INVSLE Combination	-10.5142	-2.0966		-25.98	
02	580	51 Shell-Thick	INVSLU Combination	-10.5648	-2.1831		-20.13	2.480E-
02	580	51 Shell-Thick	INVSLU Combination	-10.9317	-2.1162		-21.17	2.480E-
0.83	580	51 Shell-Thick	INVSLU Combination	-8.4755	-1.6126		-21.17	
0.83	580	51 Shell-Thick	INVSLU Combination	-8.1567	-1.6478		-20.13	
02	580	51 Shell-Thick	INVSLU Combination	-25.4444	-5.0665		-48.63	-7.387E-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 190 di 416
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02	580	51 Shell-Thick	INVS LU Combination	-25.2540	-5.0732	-48.86	-7.387E-
0.22	580	51 Shell-Thick	INVS LU Combination	-19.5480	-3.8493	-48.86	
0.22	580	51 Shell-Thick	INVS LU Combination	-19.6684	-3.8896	-48.63	
0.58	581	52 Shell-Thick	INVS LE Combination	-5.8617	-1.2241	-13.55	
0.58	581	52 Shell-Thick	INVS LE Combination	-5.9986	-1.0991	-14.19	
1.14	581	52 Shell-Thick	INVS LE Combination	-4.3497	-0.7146	-14.19	
1.14	581	52 Shell-Thick	INVS LE Combination	-4.2427	-0.8199	-13.55	
0.47	581	52 Shell-Thick	INVS LE Combination	-10.2429	-2.0610	-23.63	
0.47	581	52 Shell-Thick	INVS LE Combination	-10.2521	-1.9709	-24.10	
0.88	581	52 Shell-Thick	INVS LE Combination	-7.4418	-1.3115	-24.10	
0.88	581	52 Shell-Thick	INVS LE Combination	-7.4314	-1.4025	-23.63	
0.78	581	52 Shell-Thick	INVS LU Combination	-7.9133	-1.6525	-18.30	
0.78	581	52 Shell-Thick	INVS LU Combination	-8.0980	-1.4837	-19.16	
1.54	581	52 Shell-Thick	INVS LU Combination	-5.8721	-0.9647	-19.16	
1.54	581	52 Shell-Thick	INVS LU Combination	-5.7277	-1.1068	-18.30	
0.25	581	52 Shell-Thick	INVS LU Combination	-19.2109	-3.7741	-44.27	
0.25	581	52 Shell-Thick	INVS LU Combination	-18.9589	-3.7556	-44.37	
0.34	581	52 Shell-Thick	INVS LU Combination	-13.7711	-2.5334	-44.37	
0.34	581	52 Shell-Thick	INVS LU Combination	-13.9585	-2.5953	-44.27	
1.10	582	53 Shell-Thick	INVS LE Combination	-4.1238	-0.8303	-12.22	
1.10	582	53 Shell-Thick	INVS LE Combination	-4.1617	-0.6428	-12.75	
1.57	582	53 Shell-Thick	INVS LE Combination	-2.6786	-0.2583	-12.75	
1.57	582	53 Shell-Thick	INVS LE Combination	-2.6654	-0.4295	-12.22	
0.86	582	53 Shell-Thick	INVS LE Combination	-7.2488	-1.3812	-21.34	
0.86	582	53 Shell-Thick	INVS LE Combination	-7.1871	-1.2454	-21.70	
1.18	582	53 Shell-Thick	INVS LE Combination	-4.6548	-0.6010	-21.70	
1.18	582	53 Shell-Thick	INVS LE Combination	-4.7129	-0.7393	-21.34	
1.49	582	53 Shell-Thick	INVS LU Combination	-5.5671	-1.1209	-16.50	
1.49	582	53 Shell-Thick	INVS LU Combination	-5.6183	-0.8677	-17.22	
2.11	582	53 Shell-Thick	INVS LU Combination	-3.6160	-0.3487	-17.22	
2.11	582	53 Shell-Thick	INVS LU Combination	-3.5983	-0.5798	-16.50	
0.37	582	53 Shell-Thick	INVS LU Combination	-13.6454	-2.5087	-39.99	
0.37	582	53 Shell-Thick	INVS LU Combination	-13.3798	-2.4791	-40.00	
0.38	582	53 Shell-Thick	INVS LU Combination	-8.7000	-1.3025	-40.00	
0.38	582	53 Shell-Thick	INVS LU Combination	-8.9041	-1.3734	-39.99	
1.53	583	54 Shell-Thick	INVS LE Combination	-2.5973	-0.4453	-10.92	
1.53	583	54 Shell-Thick	INVS LE Combination	-2.5664	-0.2065	-11.36	
1.91	583	54 Shell-Thick	INVS LE Combination	-1.2438	0.1716	-11.36	
1.91	583	54 Shell-Thick	INVS LE Combination	-1.2956	-0.0534	-10.92	

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 191 di 416
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1.16	583	54 Shell-Thick	INVSLE Combination	-4.6022	-0.7296	-19.09		
1.16	583	54 Shell-Thick	INVSLE Combination	-4.5054	-0.5587	-19.36		
1.40	583	54 Shell-Thick	INVSLE Combination	-2.2431	0.0685	-19.36		
1.40	583	54 Shell-Thick	INVSLE Combination	-2.3362	-0.1050	-19.09		
2.07	583	54 Shell-Thick	INVSLE Combination	-3.5064	-0.6012	-14.75		
2.07	583	54 Shell-Thick	INVSLE Combination	-3.4647	-0.2787	-15.33		
2.59	583	54 Shell-Thick	INVSLE Combination	-1.6791	0.2317	-15.33		
2.59	583	54 Shell-Thick	INVSLE Combination	-1.7491	-0.0721	-14.75		
0.40	583	54 Shell-Thick	INVSLE Combination	-8.7061	-1.3114	-35.81		
0.40	583	54 Shell-Thick	INVSLE Combination	-8.4744	-1.2798	-35.73		
0.34	583	54 Shell-Thick	INVSLE Combination	-4.2887	-0.1426	-35.73		
0.34	583	54 Shell-Thick	INVSLE Combination	-4.4660	-0.2106	-35.81		
1.89	584	55 Shell-Thick	INVSLE Combination	-1.2691	-0.0730	-9.66		
1.89	584	55 Shell-Thick	INVSLE Combination	-1.1907	0.2072	-10.01		
2.19	584	55 Shell-Thick	INVSLE Combination	-0.0241	0.6800	-10.01		
2.19	584	55 Shell-Thick	INVSLE Combination	-0.1199	0.4803	-9.66		
1.39	584	55 Shell-Thick	INVSLE Combination	-2.2869	-0.1046	-16.89		
1.39	584	55 Shell-Thick	INVSLE Combination	-2.1737	0.0918	-17.08		
1.56	584	55 Shell-Thick	INVSLE Combination	-0.1753	0.5673	-17.08		
1.56	584	55 Shell-Thick	INVSLE Combination	-0.2838	0.2986	-16.89		
2.55	584	55 Shell-Thick	INVSLE Combination	-1.7133	-0.0986	-13.04		
2.55	584	55 Shell-Thick	INVSLE Combination	-1.6075	0.2797	-13.51		
2.96	584	55 Shell-Thick	INVSLE Combination	-0.0326	0.9349	-13.51		
2.96	584	55 Shell-Thick	INVSLE Combination	-0.1619	0.8524	-13.04		
0.36	584	55 Shell-Thick	INVSLE Combination	-4.3702	-0.1693	-31.70		
0.36	584	55 Shell-Thick	INVSLE Combination	-4.1859	-0.1443	-31.57		
0.25	584	55 Shell-Thick	INVSLE Combination	-0.4848	0.7659	-31.57		
0.25	584	55 Shell-Thick	INVSLE Combination	-0.6193	0.4031	-31.70		
2.17	585	56 Shell-Thick	INVSLE Combination	-0.1230	0.4740	-8.42		
2.17	585	56 Shell-Thick	INVSLE Combination	-0.0166	0.6890	-8.70		
2.42	585	56 Shell-Thick	INVSLE Combination	1.5717	1.2354	-8.70		
2.42	585	56 Shell-Thick	INVSLE Combination	1.4695	1.0177	-8.42		
1.55	585	56 Shell-Thick	INVSLE Combination	-0.2760	0.2767	-14.74		
1.55	585	56 Shell-Thick	INVSLE Combination	-0.1699	0.5900	-14.87		
1.67	585	56 Shell-Thick	INVSLE Combination	0.9986	0.9264	-14.87		
1.67	585	56 Shell-Thick	INVSLE Combination	0.8774	0.6228	-14.74		
2.93	585	56 Shell-Thick	INVSLE Combination	-0.1661	0.8778	-11.36		
2.93	585	56 Shell-Thick	INVSLE Combination	-0.0224	0.9450	-11.74		
3.26	585	56 Shell-Thick	INVSLE Combination	2.7450	1.8680	-11.74		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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3.26	585	56 Shell-Thick	INVSLE Combination	2.6816	1.8261	-11.36		
0.28	585	56 Shell-Thick	INVSLE Combination	-0.5892	0.3736	-27.67		
0.28	585	56 Shell-Thick	INVSLE Combination	-0.4837	0.7966	-27.51		
0.14	585	56 Shell-Thick	INVSLE Combination	1.3480	1.2506	-27.51		
0.14	585	56 Shell-Thick	INVSLE Combination	1.1845	0.8407	-27.67		
2.40	586	57 Shell-Thick	INVSLE Combination	1.4423	1.0067	-7.20		
2.40	586	57 Shell-Thick	INVSLE Combination	1.5377	1.2342	-7.42		
2.59	586	57 Shell-Thick	INVSLE Combination	3.0278	1.7216	-7.42		
2.59	586	57 Shell-Thick	INVSLE Combination	2.9363	1.4915	-7.20		
1.66	586	57 Shell-Thick	INVSLE Combination	0.8521	0.6002	-12.62		
1.66	586	57 Shell-Thick	INVSLE Combination	0.9761	0.9394	-12.71		
1.74	586	57 Shell-Thick	INVSLE Combination	1.8435	1.2425	-12.71		
1.74	586	57 Shell-Thick	INVSLE Combination	1.7075	0.9113	-12.62		
3.24	586	57 Shell-Thick	INVSLE Combination	2.6502	1.8388	-9.73		
3.24	586	57 Shell-Thick	INVSLE Combination	2.6875	1.8376	-10.02		
3.49	586	57 Shell-Thick	INVSLE Combination	5.4519	2.7024	-10.02		
3.49	586	57 Shell-Thick	INVSLE Combination	5.4516	2.6790	-9.73		
0.16	586	57 Shell-Thick	INVSLE Combination	1.1504	0.8103	-23.72		
0.16	586	57 Shell-Thick	INVSLE Combination	1.3177	1.2681	-23.54		
03	586	57 Shell-Thick	INVSLE Combination	2.4887	1.6774	-23.54	6.456E-	
03	586	57 Shell-Thick	INVSLE Combination	2.3051	1.2303	-23.72	6.456E-	
2.57	587	58 Shell-Thick	INVSLE Combination	2.8935	1.4781	-6.02		
2.57	587	58 Shell-Thick	INVSLE Combination	2.9649	1.7138	-6.18		
2.72	587	58 Shell-Thick	INVSLE Combination	4.2090	2.1395	-6.18		
2.72	587	58 Shell-Thick	INVSLE Combination	4.1406	1.9018	-6.02		
1.74	587	58 Shell-Thick	INVSLE Combination	1.6709	0.8895	-10.55		
1.74	587	58 Shell-Thick	INVSLE Combination	1.8012	1.2486	-10.60		
1.78	587	58 Shell-Thick	INVSLE Combination	2.5246	1.5138	-10.60		
1.78	587	58 Shell-Thick	INVSLE Combination	2.3842	1.1614	-10.55		
3.47	587	58 Shell-Thick	INVSLE Combination	5.3962	2.6831	-8.12		
3.47	587	58 Shell-Thick	INVSLE Combination	5.3469	2.6662	-8.35		
3.67	587	58 Shell-Thick	INVSLE Combination	7.6569	3.4202	-8.35		
3.67	587	58 Shell-Thick	INVSLE Combination	7.7357	3.4174	-8.12		
02	587	58 Shell-Thick	INVSLE Combination	2.2557	1.2008	-19.83	2.368E-	
02	587	58 Shell-Thick	INVSLE Combination	2.4316	1.6855	-19.65	2.368E-	
0.13	587	58 Shell-Thick	INVSLE Combination	3.4082	2.0436	-19.65	-	
0.13	587	58 Shell-Thick	INVSLE Combination	3.2187	1.5678	-19.83	-	
2.71	588	59 Shell-Thick	INVSLE Combination	4.0852	1.8877	-4.85		
2.71	588	59 Shell-Thick	INVSLE Combination	4.1382	2.1283	-4.97		

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2.82	588	59 Shell-Thick	INVSLE Combination	5.1404	2.4804	-4.97		
2.82	588	59 Shell-Thick	INVSLE Combination	5.0900	2.2380	-4.85		
1.78	588	59 Shell-Thick	INVSLE Combination	2.3415	1.1414	-8.50		
1.78	588	59 Shell-Thick	INVSLE Combination	2.4750	1.5153	-8.54		
1.81	588	59 Shell-Thick	INVSLE Combination	3.0572	1.7361	-8.54		
1.81	588	59 Shell-Thick	INVSLE Combination	2.9158	1.3675	-8.50		
3.65	588	59 Shell-Thick	INVSLE Combination	7.6544	3.4154	-6.54		
3.65	588	59 Shell-Thick	INVSLE Combination	7.5427	3.3831	-6.71		
3.80	588	59 Shell-Thick	INVSLE Combination	9.4046	4.0037	-6.71		
3.80	588	59 Shell-Thick	INVSLE Combination	9.5403	4.0200	-6.54		
0.11	588	59 Shell-Thick	INVSLE Combination	3.1611	1.5409	-15.99	-	
0.11	588	59 Shell-Thick	INVSLE Combination	3.3412	2.0457	-15.83	-	
0.25	588	59 Shell-Thick	INVSLE Combination	4.1272	2.3438	-15.83	-	
0.25	588	59 Shell-Thick	INVSLE Combination	3.9364	1.8461	-15.99	-	
2.81	589	60 Shell-Thick	INVSLE Combination	5.0386	2.2250	-3.70		
2.81	589	60 Shell-Thick	INVSLE Combination	5.0670	2.4685	-3.79		
2.88	589	60 Shell-Thick	INVSLE Combination	5.8313	2.7444	-3.79		
2.88	589	60 Shell-Thick	INVSLE Combination	5.8044	2.5000	-3.70		
1.81	589	60 Shell-Thick	INVSLE Combination	2.8756	1.3504	-6.49		
1.81	589	60 Shell-Thick	INVSLE Combination	3.0068	1.7351	-6.50		
1.82	589	60 Shell-Thick	INVSLE Combination	3.4504	1.9083	-6.50		
1.82	589	60 Shell-Thick	INVSLE Combination	3.3131	1.5277	-6.49		
3.79	589	60 Shell-Thick	INVSLE Combination	9.4663	4.0151	-4.99		
3.79	589	60 Shell-Thick	INVSLE Combination	9.2840	3.9697	-5.11		
3.89	589	60 Shell-Thick	INVSLE Combination	10.7047	4.4561	-5.11		
3.89	589	60 Shell-Thick	INVSLE Combination	10.9040	4.4902	-4.99		
0.24	589	60 Shell-Thick	INVSLE Combination	3.8821	1.8231	-12.20	-	
0.24	589	60 Shell-Thick	INVSLE Combination	4.0592	2.3423	-12.07	-	
0.35	589	60 Shell-Thick	INVSLE Combination	4.6581	2.5761	-12.07	-	
0.35	589	60 Shell-Thick	INVSLE Combination	4.4726	2.0624	-12.20	-	
2.88	590	61 Shell-Thick	INVSLE Combination	5.7567	2.4890	-2.56		
2.88	590	61 Shell-Thick	INVSLE Combination	5.7713	2.7339	-2.62		
2.93	590	61 Shell-Thick	INVSLE Combination	6.3003	2.9271	-2.62		
2.93	590	61 Shell-Thick	INVSLE Combination	6.2865	2.6816	-2.56		
1.82	590	61 Shell-Thick	INVSLE Combination	3.2780	1.5143	-4.49		
1.82	590	61 Shell-Thick	INVSLE Combination	3.4082	1.9062	-4.50		
1.83	590	61 Shell-Thick	INVSLE Combination	3.7151	2.0279	-4.50		
1.83	590	61 Shell-Thick	INVSLE Combination	3.5805	1.6389	-4.49		
3.89	590	61 Shell-Thick	INVSLE Combination	10.8306	4.4840	-3.45		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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3.89	590	61 Shell-Thick	INVSLU Combination	10.6086	4.4283	-3.53		
3.95	590	61 Shell-Thick	INVSLU Combination	11.5921	4.7678	-3.53		
3.95	590	61 Shell-Thick	INVSLU Combination	11.8255	4.8160	-3.45		
0.34	590	61 Shell-Thick	INVSLU Combination	4.4253	2.0443	-8.45	-	
0.34	590	61 Shell-Thick	INVSLU Combination	4.6011	2.5733	-8.35	-	
0.43	590	61 Shell-Thick	INVSLU Combination	5.0153	2.7376	-8.35	-	
0.43	590	61 Shell-Thick	INVSLU Combination	4.8337	2.2125	-8.45	-	
2.92	591	62 Shell-Thick	INVSLE Combination	6.2550	2.6737	-1.43		
2.92	591	62 Shell-Thick	INVSLE Combination	6.2543	2.9195	-1.46		
2.95	591	62 Shell-Thick	INVSLE Combination	6.5501	3.0284	-1.46		
2.95	591	62 Shell-Thick	INVSLE Combination	6.5506	2.7827	-1.43		
1.83	591	62 Shell-Thick	INVSLE Combination	3.5564	1.6298	-2.51		
1.83	591	62 Shell-Thick	INVSLE Combination	3.6839	2.0259	-2.51		
1.83	591	62 Shell-Thick	INVSLE Combination	3.8554	2.0944	-2.51		
1.83	591	62 Shell-Thick	INVSLE Combination	3.7252	1.7002	-2.51		
3.95	591	62 Shell-Thick	INVSLU Combination	11.7789	4.8105	-1.93		
3.95	591	62 Shell-Thick	INVSLU Combination	11.5157	4.7486	-1.97		
3.99	591	62 Shell-Thick	INVSLU Combination	12.0659	4.9400	-1.97		
3.99	591	62 Shell-Thick	INVSLU Combination	12.3341	4.9987	-1.93		
0.42	591	62 Shell-Thick	INVSLU Combination	4.8011	2.2003	-4.72	-	
0.42	591	62 Shell-Thick	INVSLU Combination	4.9732	2.7349	-4.66	-	
0.47	591	62 Shell-Thick	INVSLU Combination	5.2048	2.8275	-4.66	-	
0.47	591	62 Shell-Thick	INVSLU Combination	5.0291	2.2952	-4.72	-	
2.95	592	63 Shell-Thick	INVSLE Combination	6.5316	2.7784	-0.31		
2.95	592	63 Shell-Thick	INVSLE Combination	6.5286	3.0246	-0.31		
2.96	592	63 Shell-Thick	INVSLE Combination	6.5923	3.0468	-0.31		
2.96	592	63 Shell-Thick	INVSLE Combination	6.5943	2.8013	-0.31		
1.83	592	63 Shell-Thick	INVSLE Combination	3.7123	1.6957	-0.54		
1.83	592	63 Shell-Thick	INVSLE Combination	3.8404	2.0933	-0.54		
1.83	592	63 Shell-Thick	INVSLE Combination	3.8773	2.1073	-0.54		
1.83	592	63 Shell-Thick	INVSLE Combination	3.7482	1.7104	-0.54		
3.98	592	63 Shell-Thick	INVSLU Combination	12.3027	4.9946	-0.41		
3.98	592	63 Shell-Thick	INVSLU Combination	12.0313	4.9309	-0.42		
3.99	592	63 Shell-Thick	INVSLU Combination	12.1498	4.9700	-0.42		
3.99	592	63 Shell-Thick	INVSLU Combination	12.4202	5.0343	-0.41		
0.47	592	63 Shell-Thick	INVSLU Combination	5.0115	2.2892	-1.01	-	
0.47	592	63 Shell-Thick	INVSLU Combination	5.1845	2.8259	-1.00	-	
0.48	592	63 Shell-Thick	INVSLU Combination	5.2343	2.8448	-1.00	-	
0.48	592	63 Shell-Thick	INVSLU Combination	5.0600	2.3090	-1.01	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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2.96	593	64 Shell-Thick	INVSLE Combination	6.5960	2.8009	1.44		
2.96	593	64 Shell-Thick	INVSLE Combination	6.5911	3.0473	1.44		
2.94	593	64 Shell-Thick	INVSLE Combination	6.4230	2.9825	1.44		
2.94	593	64 Shell-Thick	INVSLE Combination	6.4260	2.7374	1.44		
1.83	593	64 Shell-Thick	INVSLE Combination	3.7494	1.7108	0.82		
1.83	593	64 Shell-Thick	INVSLE Combination	3.8778	2.1072	0.83		
1.83	593	64 Shell-Thick	INVSLE Combination	3.7803	2.0664	0.83		
1.83	593	64 Shell-Thick	INVSLE Combination	3.6525	1.6696	0.82		
3.99	593	64 Shell-Thick	INVSLE Combination	12.4230	5.0323	2.70		
3.99	593	64 Shell-Thick	INVSLE Combination	12.1452	4.9715	2.67		
3.97	593	64 Shell-Thick	INVSLE Combination	11.8324	4.8576	2.67		
3.97	593	64 Shell-Thick	INVSLE Combination	12.1033	4.9231	2.70		
0.48	593	64 Shell-Thick	INVSLE Combination	5.0616	2.3095	1.10	-	
0.48	593	64 Shell-Thick	INVSLE Combination	5.2350	2.8447	1.13	-	
0.45	593	64 Shell-Thick	INVSLE Combination	5.1034	2.7897	1.13	-	
0.45	593	64 Shell-Thick	INVSLE Combination	4.9309	2.2539	1.10	-	
2.95	594	65 Shell-Thick	INVSLE Combination	6.4412	2.7407	3.41		
2.95	594	65 Shell-Thick	INVSLE Combination	6.4475	2.9871	3.41		
2.91	594	65 Shell-Thick	INVSLE Combination	6.0469	2.8371	3.41		
2.91	594	65 Shell-Thick	INVSLE Combination	6.0378	2.5925	3.41		
1.83	594	65 Shell-Thick	INVSLE Combination	3.6655	1.6747	1.94		
1.83	594	65 Shell-Thick	INVSLE Combination	3.7977	2.0674	1.98		
1.82	594	65 Shell-Thick	INVSLE Combination	3.5654	1.9728	1.98		
1.82	594	65 Shell-Thick	INVSLE Combination	3.4354	1.5785	1.94		
3.98	594	65 Shell-Thick	INVSLE Combination	12.1229	4.9227	6.42		
3.98	594	65 Shell-Thick	INVSLE Combination	11.8714	4.8697	6.34		
3.93	594	65 Shell-Thick	INVSLE Combination	11.1265	4.6062	6.34		
3.93	594	65 Shell-Thick	INVSLE Combination	11.3647	4.6680	6.42		
0.46	594	65 Shell-Thick	INVSLE Combination	4.9484	2.2608	2.62	-	
0.46	594	65 Shell-Thick	INVSLE Combination	5.1270	2.7910	2.68	-	
0.39	594	65 Shell-Thick	INVSLE Combination	4.8133	2.6633	2.68	-	
0.39	594	65 Shell-Thick	INVSLE Combination	4.6378	2.1310	2.62	-	
2.91	595	66 Shell-Thick	INVSLE Combination	6.0707	2.5992	5.40		
2.91	595	66 Shell-Thick	INVSLE Combination	6.0879	2.8451	5.41		
2.85	595	66 Shell-Thick	INVSLE Combination	5.4533	2.6107	5.41		
2.85	595	66 Shell-Thick	INVSLE Combination	5.4326	2.3671	5.40		
1.82	595	66 Shell-Thick	INVSLE Combination	3.4605	1.5881	3.07		
1.82	595	66 Shell-Thick	INVSLE Combination	3.5957	1.9743	3.14		
1.82	595	66 Shell-Thick	INVSLE Combination	3.2275	1.8270	3.14		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 196 di 416
1.82	595	66 Shell-Thick	INVSLE	Combination	3.0964	1.4382	3.07	
3.93	595	66 Shell-Thick	INVSLE	Combination	11.4137	4.6689	10.16	
3.93	595	66 Shell-Thick	INVSLE	Combination	11.1893	4.6277	10.04	
3.85	595	66 Shell-Thick	INVSLE	Combination	10.0095	4.2147	10.04	
3.85	595	66 Shell-Thick	INVSLE	Combination	10.2148	4.2686	10.16	
0.40	595	66 Shell-Thick	INVSLE	Combination	4.6717	2.1439	4.15	-
0.40	595	66 Shell-Thick	INVSLE	Combination	4.8542	2.6653	4.25	-
0.30	595	66 Shell-Thick	INVSLE	Combination	4.3571	2.4665	4.25	-
0.30	595	66 Shell-Thick	INVSLE	Combination	4.1801	1.9415	4.15	-
2.86	596	67 Shell-Thick	INVSLE	Combination	5.4721	2.3763	7.40	
2.86	596	67 Shell-Thick	INVSLE	Combination	5.5110	2.6209	7.42	
2.77	596	67 Shell-Thick	INVSLE	Combination	4.6403	2.3080	7.42	
2.77	596	67 Shell-Thick	INVSLE	Combination	4.5967	2.0665	7.40	
1.82	596	67 Shell-Thick	INVSLE	Combination	3.1285	1.4517	4.22	
1.82	596	67 Shell-Thick	INVSLE	Combination	3.2683	1.8281	4.32	
1.80	596	67 Shell-Thick	INVSLE	Combination	2.7627	1.6315	4.32	
1.80	596	67 Shell-Thick	INVSLE	Combination	2.6287	1.2513	4.22	
3.86	596	67 Shell-Thick	INVSLE	Combination	10.2693	4.2689	13.92	
3.86	596	67 Shell-Thick	INVSLE	Combination	10.1017	4.2437	13.78	
3.74	596	67 Shell-Thick	INVSLE	Combination	8.4835	3.6928	13.78	
3.74	596	67 Shell-Thick	INVSLE	Combination	8.6253	3.7352	13.92	
0.32	596	67 Shell-Thick	INVSLE	Combination	4.2235	1.9598	5.69	-
0.32	596	67 Shell-Thick	INVSLE	Combination	4.4123	2.4679	5.83	-
0.19	596	67 Shell-Thick	INVSLE	Combination	3.7296	2.2026	5.83	-
0.19	596	67 Shell-Thick	INVSLE	Combination	3.5487	1.6892	5.69	-
2.78	597	68 Shell-Thick	INVSLE	Combination	4.6435	2.0773	9.43	
2.78	597	68 Shell-Thick	INVSLE	Combination	4.7005	2.3186	9.47	
2.65	597	68 Shell-Thick	INVSLE	Combination	3.5900	1.9292	9.47	
2.65	597	68 Shell-Thick	INVSLE	Combination	3.5279	1.6913	9.43	
1.80	597	68 Shell-Thick	INVSLE	Combination	2.6656	1.2681	5.38	
1.80	597	68 Shell-Thick	INVSLE	Combination	2.8064	1.6308	5.52	
1.76	597	68 Shell-Thick	INVSLE	Combination	2.1611	1.3877	5.52	
1.76	597	68 Shell-Thick	INVSLE	Combination	2.0281	1.0198	5.38	
3.75	597	68 Shell-Thick	INVSLE	Combination	8.6920	3.7336	17.73	
3.75	597	68 Shell-Thick	INVSLE	Combination	8.5775	3.7265	17.56	
3.58	597	68 Shell-Thick	INVSLE	Combination	6.5151	3.0377	17.56	
3.58	597	68 Shell-Thick	INVSLE	Combination	6.5980	3.0658	17.73	
0.20	597	68 Shell-Thick	INVSLE	Combination	3.5986	1.7120	7.26	-
0.20	597	68 Shell-Thick	INVSLE	Combination	3.7886	2.2016	7.45	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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02	597	68 Shell-Thick	INVSLU Combination	2.9175	1.8734	7.45	-5.739E-	
02	597	68 Shell-Thick	INVSLU Combination	2.7380	1.3768	7.26	-5.739E-	
2.67	598	69 Shell-Thick	INVSLE Combination	3.5668	1.7021	11.49		
2.67	598	69 Shell-Thick	INVSLE Combination	3.6479	1.9378	11.55		
2.50	598	69 Shell-Thick	INVSLE Combination	2.2942	1.4827	11.55		
2.50	598	69 Shell-Thick	INVSLE Combination	2.2070	1.2511	11.49		
1.77	598	69 Shell-Thick	INVSLE Combination	2.0622	1.0390	6.55		
1.77	598	69 Shell-Thick	INVSLE Combination	2.2017	1.3835	6.74		
1.71	598	69 Shell-Thick	INVSLE Combination	1.4141	1.0997	6.74		
1.71	598	69 Shell-Thick	INVSLE Combination	1.2844	0.7487	6.55		
3.60	598	69 Shell-Thick	INVSLU Combination	6.6468	3.0593	21.59		
3.60	598	69 Shell-Thick	INVSLU Combination	6.6084	3.0725	21.41		
3.38	598	69 Shell-Thick	INVSLU Combination	4.0958	2.2666	21.41		
3.38	598	69 Shell-Thick	INVSLU Combination	4.0955	2.2793	21.59		
02	598	69 Shell-Thick	INVSLU Combination	2.7839	1.4026	8.85	-7.577E-	
02	598	69 Shell-Thick	INVSLU Combination	2.9723	1.8677	9.10	-7.577E-	
02	598	69 Shell-Thick	INVSLU Combination	1.9090	1.4846	9.10	7.913E-	
02	598	69 Shell-Thick	INVSLU Combination	1.7339	1.0108	8.85	7.913E-	
2.52	599	70 Shell-Thick	INVSLE Combination	2.2349	1.2603	13.58		
2.52	599	70 Shell-Thick	INVSLE Combination	2.3308	1.4863	13.68		
2.31	599	70 Shell-Thick	INVSLE Combination	0.7286	0.9682	13.68		
2.31	599	70 Shell-Thick	INVSLE Combination	0.6265	0.7463	13.58		
1.71	599	70 Shell-Thick	INVSLE Combination	1.3106	0.7692	7.75		
1.71	599	70 Shell-Thick	INVSLE Combination	1.4402	1.0898	7.99		
1.62	599	70 Shell-Thick	INVSLE Combination	0.5070	0.7697	7.99		
1.62	599	70 Shell-Thick	INVSLE Combination	0.3897	0.4410	7.75		
3.40	599	70 Shell-Thick	INVSLU Combination	4.1271	2.2656	25.50		
3.40	599	70 Shell-Thick	INVSLU Combination	4.1536	2.2981	25.33		
3.12	599	70 Shell-Thick	INVSLU Combination	1.1820	1.3743	25.33		
3.12	599	70 Shell-Thick	INVSLU Combination	1.1113	1.3714	25.50		
02	599	70 Shell-Thick	INVSLU Combination	1.7693	1.0384	10.46	5.652E-	
02	599	70 Shell-Thick	INVSLU Combination	1.9443	1.4712	10.79	5.652E-	
0.21	599	70 Shell-Thick	INVSLU Combination	0.6845	1.0391	10.79		
0.21	599	70 Shell-Thick	INVSLU Combination	0.5260	0.5953	10.46		
2.33	600	71 Shell-Thick	INVSLE Combination	0.6257	0.7519	15.71		
2.33	600	71 Shell-Thick	INVSLE Combination	0.7334	0.9634	15.86		
2.06	600	71 Shell-Thick	INVSLE Combination	-0.5734	0.4038	15.86		
2.06	600	71 Shell-Thick	INVSLE Combination	-0.6695	0.1912	15.71		
1.62	600	71 Shell-Thick	INVSLE Combination	0.3980	0.4613	8.97		

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1.62	600	71 Shell-Thick	INVSLE Combination	0.5090	0.7515		9.28	
1.49	600	71 Shell-Thick	INVSLE Combination	-1.1222	0.3981		9.28	
1.49	600	71 Shell-Thick	INVSLE Combination	-1.2369	0.1038		8.97	
3.14	600	71 Shell-Thick	INVSLE Combination	1.0920	1.3467		29.49	
3.14	600	71 Shell-Thick	INVSLE Combination	1.1928	1.3974		29.34	
2.78	600	71 Shell-Thick	INVSLE Combination	-0.7741	0.5451		29.34	
2.78	600	71 Shell-Thick	INVSLE Combination	-0.9039	0.3703		29.49	
0.18	600	71 Shell-Thick	INVSLE Combination	0.5373	0.6227		12.11	
0.18	600	71 Shell-Thick	INVSLE Combination	0.6871	1.0145		12.53	
0.31	600	71 Shell-Thick	INVSLE Combination	-2.2455	0.3864		12.53	
0.31	600	71 Shell-Thick	INVSLE Combination	-2.3981	0.1401		12.11	
2.08	601	72 Shell-Thick	INVSLE Combination	-0.6866	0.1910		17.88	
2.08	601	72 Shell-Thick	INVSLE Combination	-0.6101	0.3810		18.10	
1.75	601	72 Shell-Thick	INVSLE Combination	-1.8460	0.0046		18.10	
1.75	601	72 Shell-Thick	INVSLE Combination	-1.9043	-0.2590		17.88	
1.49	601	72 Shell-Thick	INVSLE Combination	-1.2735	0.1226		10.22	
1.49	601	72 Shell-Thick	INVSLE Combination	-1.1716	0.3742		10.61	
1.30	601	72 Shell-Thick	INVSLE Combination	-3.2873	-0.2285		10.61	
1.30	601	72 Shell-Thick	INVSLE Combination	-3.3956	-0.4141		10.22	
2.81	601	72 Shell-Thick	INVSLE Combination	-0.9269	0.3312		33.55	
2.81	601	72 Shell-Thick	INVSLE Combination	-0.8236	0.5154		33.44	
2.36	601	72 Shell-Thick	INVSLE Combination	-2.4921	0.0063		33.44	
2.36	601	72 Shell-Thick	INVSLE Combination	-2.5708	-0.3497		33.55	
0.29	601	72 Shell-Thick	INVSLE Combination	-2.4749	0.1655		13.80	
0.29	601	72 Shell-Thick	INVSLE Combination	-2.3210	0.3950		14.32	
0.38	601	72 Shell-Thick	INVSLE Combination	-6.2375	-0.7056		14.32	
0.38	601	72 Shell-Thick	INVSLE Combination	-6.4481	-0.7315		13.80	
1.78	602	73 Shell-Thick	INVSLE Combination	-1.9580	-0.2434		20.10	
1.78	602	73 Shell-Thick	INVSLE Combination	-1.9346	-0.0395		20.40	
1.36	602	73 Shell-Thick	INVSLE Combination	-3.3283	-0.4200		20.40	
1.36	602	73 Shell-Thick	INVSLE Combination	-3.3299	-0.6383		20.10	
1.31	602	73 Shell-Thick	INVSLE Combination	-3.4865	-0.4226		11.50	
1.31	602	73 Shell-Thick	INVSLE Combination	-3.4072	-0.2622		11.98	
1.04	602	73 Shell-Thick	INVSLE Combination	-5.7889	-0.8955		11.98	
1.04	602	73 Shell-Thick	INVSLE Combination	-5.8745	-1.0515		11.50	
2.40	602	73 Shell-Thick	INVSLE Combination	-2.6433	-0.3285		37.69	
2.40	602	73 Shell-Thick	INVSLE Combination	-2.6117	-0.0533		37.64	
1.84	602	73 Shell-Thick	INVSLE Combination	-4.4932	-0.5670		37.64	
1.84	602	73 Shell-Thick	INVSLE Combination	-4.4953	-0.8616		37.69	

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0.35	602	73 Shell-Thick	INVSLE Combination	-6.6152	-0.7894	15.53		
0.35	602	73 Shell-Thick	INVSLE Combination	-6.4215	-0.7180	16.17		
0.39	602	73 Shell-Thick	INVSLE Combination	-10.8255	-1.8689	16.17		
0.39	602	73 Shell-Thick	INVSLE Combination	-11.0832	-1.8974	15.53		
1.40	603	74 Shell-Thick	INVSLE Combination	-3.4298	-0.6273	22.36		
1.40	603	74 Shell-Thick	INVSLE Combination	-3.4850	-0.4822	22.77		
0.89	603	74 Shell-Thick	INVSLE Combination	-5.0415	-0.8670	22.77		
0.89	603	74 Shell-Thick	INVSLE Combination	-4.9598	-1.0295	22.36		
1.06	603	74 Shell-Thick	INVSLE Combination	-6.0312	-1.0706	12.82		
1.06	603	74 Shell-Thick	INVSLE Combination	-6.0031	-0.9506	13.39		
0.71	603	74 Shell-Thick	INVSLE Combination	-8.6585	-1.6041	13.39		
0.71	603	74 Shell-Thick	INVSLE Combination	-8.6910	-1.7209	12.82		
1.88	603	74 Shell-Thick	INVSLE Combination	-4.6303	-0.8469	41.91		
1.88	603	74 Shell-Thick	INVSLE Combination	-4.7048	-0.6510	41.95		
1.20	603	74 Shell-Thick	INVSLE Combination	-6.8060	-1.1704	41.95		
1.20	603	74 Shell-Thick	INVSLE Combination	-6.6958	-1.3898	41.91		
0.36	603	74 Shell-Thick	INVSLE Combination	-11.3561	-1.9780	17.30		
0.36	603	74 Shell-Thick	INVSLE Combination	-11.1576	-1.9093	18.08		
0.32	603	74 Shell-Thick	INVSLE Combination	-16.0623	-3.1130	18.08		
0.32	603	74 Shell-Thick	INVSLE Combination	-16.3286	-3.1363	17.30		
0.94	604	75 Shell-Thick	INVSLE Combination	-5.1631	-1.0216	25.25		
0.94	604	75 Shell-Thick	INVSLE Combination	-5.3757	-0.9823	25.83		
02	604	75 Shell-Thick	INVSLE Combination	-8.0082	-1.5391	25.83	-3.314E-	
02	604	75 Shell-Thick	INVSLE Combination	-7.7779	-1.6181	25.25	-3.314E-	
0.73	604	75 Shell-Thick	INVSLE Combination	-9.0125	-1.7634	14.48		
0.73	604	75 Shell-Thick	INVSLE Combination	-9.1057	-1.7154	15.25		
02	604	75 Shell-Thick	INVSLE Combination	-13.6147	-2.6909	15.25	-6.594E-	
02	604	75 Shell-Thick	INVSLE Combination	-13.5222	-2.7364	14.48	-6.594E-	
1.27	604	75 Shell-Thick	INVSLE Combination	-6.9701	-1.3792	47.31		
1.27	604	75 Shell-Thick	INVSLE Combination	-7.2572	-1.3262	47.50		
02	604	75 Shell-Thick	INVSLE Combination	-10.8110	-2.0778	47.50	3.399E-	
02	604	75 Shell-Thick	INVSLE Combination	-10.5002	-2.1844	47.31	3.399E-	
0.29	604	75 Shell-Thick	INVSLE Combination	-16.8921	-3.2818	19.54		
0.29	604	75 Shell-Thick	INVSLE Combination	-16.7408	-3.2159	20.58		
02	604	75 Shell-Thick	INVSLE Combination	-25.0909	-5.0486	20.58	-8.902E-	
02	604	75 Shell-Thick	INVSLE Combination	-25.2803	-5.0257	19.54	-8.902E-	
1.09	605	629 Shell-Thick	INVSLE Combination	5.4342	0.2443	3.13		
1.08	605	629 Shell-Thick	INVSLE Combination	5.0672	0.2303	3.13		
1.08	605	629 Shell-Thick	INVSLE Combination	5.0453	0.1174	3.12		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 200 di 416
1.09	605	629 Shell-Thick	INVSLE	Combination	5.4132	0.1304	3.12	
1.01	605	629 Shell-Thick	INVSLE	Combination	2.2971	0.0340	1.49	
1.00	605	629 Shell-Thick	INVSLE	Combination	2.1212	0.0320	1.49	
1.00	605	629 Shell-Thick	INVSLE	Combination	2.0308	-0.0914	1.48	
1.01	605	629 Shell-Thick	INVSLE	Combination	2.2050	-0.0874	1.48	
1.48	605	629 Shell-Thick	INVSLE	Combination	11.8557	0.6748	6.47	
1.46	605	629 Shell-Thick	INVSLE	Combination	11.0976	0.6361	6.47	
1.46	605	629 Shell-Thick	INVSLE	Combination	11.2158	0.5448	6.46	
1.48	605	629 Shell-Thick	INVSLE	Combination	11.9802	0.5763	6.46	
0.84	605	629 Shell-Thick	INVSLE	Combination	3.1011	0.0459	2.02	
0.84	605	629 Shell-Thick	INVSLE	Combination	2.8636	0.0432	2.02	
0.84	605	629 Shell-Thick	INVSLE	Combination	2.7416	-0.1234	2.00	
0.84	605	629 Shell-Thick	INVSLE	Combination	2.9768	-0.1180	2.00	
0.39	606	630 Shell-Thick	INVSLE	Combination	5.4035	0.0800	3.11	
0.38	606	630 Shell-Thick	INVSLE	Combination	5.0376	0.0808	3.11	
0.38	606	630 Shell-Thick	INVSLE	Combination	5.0668	0.0412	3.11	
0.39	606	630 Shell-Thick	INVSLE	Combination	5.4341	0.0388	3.11	
0.36	606	630 Shell-Thick	INVSLE	Combination	2.2241	0.0048	1.48	
0.36	606	630 Shell-Thick	INVSLE	Combination	2.0497	0.0063	1.48	
0.36	606	630 Shell-Thick	INVSLE	Combination	1.9928	-0.0379	1.47	
0.36	606	630 Shell-Thick	INVSLE	Combination	2.1659	-0.0379	1.47	
0.52	606	630 Shell-Thick	INVSLE	Combination	11.9114	0.2340	6.46	
0.52	606	630 Shell-Thick	INVSLE	Combination	11.1538	0.2333	6.46	
0.52	606	630 Shell-Thick	INVSLE	Combination	11.3591	0.2030	6.46	
0.52	606	630 Shell-Thick	INVSLE	Combination	12.1237	0.1957	6.46	
0.30	606	630 Shell-Thick	INVSLE	Combination	3.0026	0.0064	2.00	
0.31	606	630 Shell-Thick	INVSLE	Combination	2.7670	0.0084	2.00	
0.31	606	630 Shell-Thick	INVSLE	Combination	2.6903	-0.0511	1.99	
0.30	606	630 Shell-Thick	INVSLE	Combination	2.9240	-0.0511	1.99	
1.08	607	631 Shell-Thick	INVSLE	Combination	5.0398	0.2243	4.92	
1.06	607	631 Shell-Thick	INVSLE	Combination	4.4620	0.2056	4.92	
1.06	607	631 Shell-Thick	INVSLE	Combination	4.4367	0.0946	4.90	
1.08	607	631 Shell-Thick	INVSLE	Combination	5.0157	0.1120	4.90	
1.00	607	631 Shell-Thick	INVSLE	Combination	2.1153	0.0285	2.34	
0.98	607	631 Shell-Thick	INVSLE	Combination	1.8393	0.0260	2.34	
0.98	607	631 Shell-Thick	INVSLE	Combination	1.7510	-0.0960	2.32	
1.00	607	631 Shell-Thick	INVSLE	Combination	2.0243	-0.0903	2.32	
1.46	607	631 Shell-Thick	INVSLE	Combination	11.0262	0.6251	10.20	
1.43	607	631 Shell-Thick	INVSLE	Combination	9.8306	0.5731	10.20	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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1.43	607	631 Shell-Thick	INVSLU Combination	9.9342	0.4846	10.19		
1.46	607	631 Shell-Thick	INVSLU Combination	11.1389	0.5262	10.19		
0.84	607	631 Shell-Thick	INVSLU Combination	2.8557	0.0384	3.17		
0.83	607	631 Shell-Thick	INVSLU Combination	2.4830	0.0351	3.17		
0.83	607	631 Shell-Thick	INVSLU Combination	2.3639	-0.1296	3.13		
0.84	607	631 Shell-Thick	INVSLU Combination	2.7328	-0.1220	3.13		
0.38	608	632 Shell-Thick	INVSLE Combination	5.0080	0.0748	4.90		
0.37	608	632 Shell-Thick	INVSLE Combination	4.4320	0.0700	4.90		
0.37	608	632 Shell-Thick	INVSLE Combination	4.4518	0.0313	4.90		
0.38	608	632 Shell-Thick	INVSLE Combination	5.0298	0.0338	4.90		
0.36	608	632 Shell-Thick	INVSLE Combination	2.0439	0.0035	2.32		
0.35	608	632 Shell-Thick	INVSLE Combination	1.7702	0.0038	2.32		
0.35	608	632 Shell-Thick	INVSLE Combination	1.7129	-0.0401	2.31		
0.36	608	632 Shell-Thick	INVSLE Combination	1.9845	-0.0380	2.31		
0.52	608	632 Shell-Thick	INVSLU Combination	11.0753	0.2207	10.19		
0.51	608	632 Shell-Thick	INVSLU Combination	9.8808	0.2054	10.19		
0.51	608	632 Shell-Thick	INVSLU Combination	10.0581	0.1776	10.19		
0.52	608	632 Shell-Thick	INVSLU Combination	11.2634	0.1806	10.19		
0.30	608	632 Shell-Thick	INVSLU Combination	2.7592	0.0047	3.13		
0.30	608	632 Shell-Thick	INVSLU Combination	2.3897	0.0051	3.13		
0.30	608	632 Shell-Thick	INVSLU Combination	2.3124	-0.0542	3.12		
0.30	608	632 Shell-Thick	INVSLU Combination	2.6790	-0.0513	3.12		
1.06	609	633 Shell-Thick	INVSLE Combination	4.4318	0.1978	6.71		
1.03	609	633 Shell-Thick	INVSLE Combination	3.6445	0.1635	6.71		
1.03	609	633 Shell-Thick	INVSLE Combination	3.6058	0.0551	6.68		
1.06	609	633 Shell-Thick	INVSLE Combination	4.3944	0.0879	6.68		
0.98	609	633 Shell-Thick	INVSLE Combination	1.8358	0.0216	3.18		
0.96	609	633 Shell-Thick	INVSLE Combination	1.4613	0.0153	3.18		
0.96	609	633 Shell-Thick	INVSLE Combination	1.3735	-0.1044	3.15		
0.98	609	633 Shell-Thick	INVSLE Combination	1.7441	-0.0936	3.15		
1.43	609	633 Shell-Thick	INVSLU Combination	9.7457	0.5585	13.92		
1.38	609	633 Shell-Thick	INVSLU Combination	8.1134	0.4669	13.92		
1.38	609	633 Shell-Thick	INVSLU Combination	8.1750	0.3817	13.91		
1.43	609	633 Shell-Thick	INVSLU Combination	9.8195	0.4593	13.91		
0.83	609	633 Shell-Thick	INVSLU Combination	2.4783	0.0292	4.29		
0.81	609	633 Shell-Thick	INVSLU Combination	1.9728	0.0206	4.29		
0.81	609	633 Shell-Thick	INVSLU Combination	1.8543	-0.1409	4.25		
0.83	609	633 Shell-Thick	INVSLU Combination	2.3546	-0.1264	4.25		
0.38	610	634 Shell-Thick	INVSLE Combination	4.3905	0.0619	6.68		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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0.36	610	634 Shell-Thick	INVSLE Combination	3.6059	0.0621		6.68	
0.36	610	634 Shell-Thick	INVSLE Combination	3.6166	0.0246		6.67	
0.38	610	634 Shell-Thick	INVSLE Combination	4.4037	0.0215		6.67	
0.35	610	634 Shell-Thick	INVSLE Combination	1.7645	4.755E-04		3.15	
0.34	610	634 Shell-Thick	INVSLE Combination	1.3933	0.0023		3.15	
0.34	610	634 Shell-Thick	INVSLE Combination	1.3368	-0.0411		3.13	
0.35	610	634 Shell-Thick	INVSLE Combination	1.7050	-0.0395		3.13	
0.51	610	634 Shell-Thick	INVSLE Combination	9.7657	0.1876		13.91	
0.49	610	634 Shell-Thick	INVSLE Combination	8.1350	0.1847		13.91	
0.49	610	634 Shell-Thick	INVSLE Combination	8.2833	0.1592		13.91	
0.51	610	634 Shell-Thick	INVSLE Combination	9.9279	0.1464		13.91	
0.30	610	634 Shell-Thick	INVSLE Combination	2.3821	6.419E-04		4.25	
0.30	610	634 Shell-Thick	INVSLE Combination	1.8810	0.0031		4.25	
0.30	610	634 Shell-Thick	INVSLE Combination	1.8047	-0.0555		4.23	
0.30	610	634 Shell-Thick	INVSLE Combination	2.3017	-0.0534		4.23	
1.03	611	635 Shell-Thick	INVSLE Combination	3.6041	0.1539		8.47	
0.98	611	635 Shell-Thick	INVSLE Combination	2.6092	0.1167		8.47	
0.98	611	635 Shell-Thick	INVSLE Combination	2.5649	0.0117		8.44	
1.03	611	635 Shell-Thick	INVSLE Combination	3.5608	0.0477		8.44	
0.96	611	635 Shell-Thick	INVSLE Combination	1.4604	0.0104		4.00	
0.92	611	635 Shell-Thick	INVSLE Combination	0.9899	0.0033		4.00	
0.92	611	635 Shell-Thick	INVSLE Combination	0.9067	-0.1130		3.95	
0.96	611	635 Shell-Thick	INVSLE Combination	1.3720	-0.1000		3.95	
1.39	611	635 Shell-Thick	INVSLE Combination	7.9920	0.4475		17.63	
1.33	611	635 Shell-Thick	INVSLE Combination	5.9237	0.3487		17.63	
1.33	611	635 Shell-Thick	INVSLE Combination	5.9593	0.2667		17.61	
1.39	611	635 Shell-Thick	INVSLE Combination	8.0411	0.3501		17.61	
0.81	611	635 Shell-Thick	INVSLE Combination	1.9716	0.0140		5.40	
0.79	611	635 Shell-Thick	INVSLE Combination	1.3364	0.0045		5.40	
0.79	611	635 Shell-Thick	INVSLE Combination	1.2240	-0.1525		5.34	
0.81	611	635 Shell-Thick	INVSLE Combination	1.8522	-0.1350		5.34	
0.37	612	636 Shell-Thick	INVSLE Combination	3.5616	0.0527		8.44	
0.35	612	636 Shell-Thick	INVSLE Combination	2.5705	0.0388		8.44	
0.35	612	636 Shell-Thick	INVSLE Combination	2.5627	0.0027		8.42	
0.37	612	636 Shell-Thick	INVSLE Combination	3.5566	0.0132		8.42	
0.34	612	636 Shell-Thick	INVSLE Combination	1.3932	-8.695E-04		3.95	
0.33	612	636 Shell-Thick	INVSLE Combination	0.9271	-0.0039		3.95	
0.33	612	636 Shell-Thick	INVSLE Combination	0.8696	-0.0464		3.93	
0.34	612	636 Shell-Thick	INVSLE Combination	1.3318	-0.0390		3.93	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 203 di 416
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0.50	612	636 Shell-Thick	INVSLU Combination	8.0002	0.1622	17.62		
0.47	612	636 Shell-Thick	INVSLU Combination	5.9345	0.1261	17.62		
0.47	612	636 Shell-Thick	INVSLU Combination	6.0283	0.1030	17.61		
0.50	612	636 Shell-Thick	INVSLU Combination	8.1107	0.1202	17.61		
0.29	612	636 Shell-Thick	INVSLU Combination	1.8808	-0.0012	5.33		
0.29	612	636 Shell-Thick	INVSLU Combination	1.2516	-0.0052	5.33		
0.29	612	636 Shell-Thick	INVSLU Combination	1.1740	-0.0626	5.31		
0.29	612	636 Shell-Thick	INVSLU Combination	1.7980	-0.0527	5.31		
0.99	613	637 Shell-Thick	INVSLE Combination	2.5791	0.1066	10.22		
0.93	613	637 Shell-Thick	INVSLE Combination	1.3794	0.0402	10.22		
0.93	613	637 Shell-Thick	INVSLE Combination	1.3107	-0.0604	10.17		
0.99	613	637 Shell-Thick	INVSLE Combination	2.5112	0.0050	10.17		
0.92	613	637 Shell-Thick	INVSLE Combination	1.0014	-8.852E-04	4.78		
0.87	613	637 Shell-Thick	INVSLE Combination	0.4381	-0.0173	4.78		
0.87	613	637 Shell-Thick	INVSLE Combination	0.3557	-0.1290	4.73		
0.92	613	637 Shell-Thick	INVSLE Combination	0.9125	-0.1053	4.73		
1.34	613	637 Shell-Thick	INVSLU Combination	5.8086	0.3265	21.34		
1.26	613	637 Shell-Thick	INVSLU Combination	3.3060	0.1578	21.34		
1.26	613	637 Shell-Thick	INVSLU Combination	3.2654	0.0800	21.31		
1.34	613	637 Shell-Thick	INVSLU Combination	5.7836	0.2308	21.31		
0.78	613	637 Shell-Thick	INVSLU Combination	1.3519	-0.0012	6.46		
0.76	613	637 Shell-Thick	INVSLU Combination	0.5915	-0.0233	6.46		
0.76	613	637 Shell-Thick	INVSLU Combination	0.4802	-0.1742	6.38		
0.78	613	637 Shell-Thick	INVSLU Combination	1.2318	-0.1422	6.38		
02	614	76 Shell-Thick	INVSLE Combination	-8.1401	-1.6699	-15.66	-1.375E-	
02	614	76 Shell-Thick	INVSLE Combination	-8.3383	-1.6257	-16.36	-1.375E-	
0.57	614	76 Shell-Thick	INVSLE Combination	-6.4388	-1.2256	-16.36		
0.57	614	76 Shell-Thick	INVSLE Combination	-6.2676	-1.2521	-15.66		
02	614	76 Shell-Thick	INVSLE Combination	-13.7688	-2.7673	-26.54	-4.408E-	
02	614	76 Shell-Thick	INVSLE Combination	-13.7866	-2.7438	-27.04	-4.408E-	
0.42	614	76 Shell-Thick	INVSLE Combination	-10.6369	-2.0643	-27.04		
0.42	614	76 Shell-Thick	INVSLE Combination	-10.6084	-2.0952	-26.54		
02	614	76 Shell-Thick	INVSLU Combination	-10.9891	-2.2544	-21.14	4.833E-	
02	614	76 Shell-Thick	INVSLU Combination	-11.2567	-2.1947	-22.09	4.833E-	
0.77	614	76 Shell-Thick	INVSLU Combination	-8.6924	-1.6546	-22.09		
0.77	614	76 Shell-Thick	INVSLU Combination	-8.4612	-1.6903	-21.14		
02	614	76 Shell-Thick	INVSLU Combination	-25.2906	-5.0134	-48.81	-5.951E-	
02	614	76 Shell-Thick	INVSLU Combination	-24.9389	-5.0325	-48.88	-5.951E-	
0.11	614	76 Shell-Thick	INVSLU Combination	-19.2301	-3.7812	-48.88		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 204 di 416
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0.11	614	76 Shell-Thick	INVSLE Combination	-19.4938	-3.8211	-48.81		
0.53	615	77 Shell-Thick	INVSLE Combination	-6.0443	-1.2416	-14.18		
0.53	615	77 Shell-Thick	INVSLE Combination	-6.1243	-1.1286	-14.76		
1.04	615	77 Shell-Thick	INVSLE Combination	-4.4092	-0.7113	-14.76		
1.04	615	77 Shell-Thick	INVSLE Combination	-4.3514	-0.8096	-14.18		
0.41	615	77 Shell-Thick	INVSLE Combination	-10.2908	-2.0426	-24.08		
0.41	615	77 Shell-Thick	INVSLE Combination	-10.2208	-1.9703	-24.45		
0.73	615	77 Shell-Thick	INVSLE Combination	-7.3695	-1.2802	-24.45		
0.73	615	77 Shell-Thick	INVSLE Combination	-7.4273	-1.3608	-24.08		
0.72	615	77 Shell-Thick	INVSLE Combination	-8.1598	-1.6761	-19.14		
0.72	615	77 Shell-Thick	INVSLE Combination	-8.2678	-1.5236	-19.92		
1.40	615	77 Shell-Thick	INVSLE Combination	-5.9524	-0.9602	-19.92		
1.40	615	77 Shell-Thick	INVSLE Combination	-5.8744	-1.0929	-19.14		
0.15	615	77 Shell-Thick	INVSLE Combination	-18.9830	-3.6822	-44.34		
0.15	615	77 Shell-Thick	INVSLE Combination	-18.6063	-3.6931	-44.28		
02	615	77 Shell-Thick	INVSLE Combination	-13.4292	-2.4449	-44.28	9.976E-	
02	615	77 Shell-Thick	INVSLE Combination	-13.7235	-2.4892	-44.34	9.976E-	
1.01	616	78 Shell-Thick	INVSLE Combination	-4.2078	-0.8103	-12.74		
1.01	616	78 Shell-Thick	INVSLE Combination	-4.2066	-0.6413	-13.21		
1.41	616	78 Shell-Thick	INVSLE Combination	-2.6689	-0.2170	-13.21		
1.41	616	78 Shell-Thick	INVSLE Combination	-2.6890	-0.3736	-12.74		
0.72	616	78 Shell-Thick	INVSLE Combination	-7.2208	-1.3279	-21.68		
0.72	616	78 Shell-Thick	INVSLE Combination	-7.1064	-1.2192	-21.94		
0.95	616	78 Shell-Thick	INVSLE Combination	-4.5433	-0.5281	-21.94		
0.95	616	78 Shell-Thick	INVSLE Combination	-4.6463	-0.6445	-21.68		
1.36	616	78 Shell-Thick	INVSLE Combination	-5.6806	-1.0939	-17.20		
1.36	616	78 Shell-Thick	INVSLE Combination	-5.6789	-0.8658	-17.83		
1.91	616	78 Shell-Thick	INVSLE Combination	-3.6029	-0.2930	-17.83		
1.91	616	78 Shell-Thick	INVSLE Combination	-3.6301	-0.5044	-17.20		
0.14	616	78 Shell-Thick	INVSLE Combination	-13.3881	-2.3874	-39.97		
0.14	616	78 Shell-Thick	INVSLE Combination	-13.0421	-2.4022	-39.82		
03	616	78 Shell-Thick	INVSLE Combination	-8.3801	-1.1647	-39.82	6.104E-	
03	616	78 Shell-Thick	INVSLE Combination	-8.6527	-1.1990	-39.97	6.104E-	
1.39	617	79 Shell-Thick	INVSLE Combination	-2.6109	-0.3831	-11.35		
1.39	617	79 Shell-Thick	INVSLE Combination	-2.5563	-0.1694	-11.72		
1.71	617	79 Shell-Thick	INVSLE Combination	-1.1896	0.2477	-11.72		
1.71	617	79 Shell-Thick	INVSLE Combination	-1.2600	0.0444	-11.35		
0.95	617	79 Shell-Thick	INVSLE Combination	-4.5321	-0.6277	-19.35		
0.95	617	79 Shell-Thick	INVSLE Combination	-4.4016	-0.4937	-19.52		

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 205 di 416
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1.10	617	79 Shell-Thick	INVSLE Combination	-2.1183	0.1739	-19.52		
1.10	617	79 Shell-Thick	INVSLE Combination	-2.2375	0.0323	-19.35		
1.87	617	79 Shell-Thick	INVSLE Combination	-3.5247	-0.5172	-15.32		
1.87	617	79 Shell-Thick	INVSLE Combination	-3.4509	-0.2287	-15.83		
2.31	617	79 Shell-Thick	INVSLE Combination	-1.6059	0.3344	-15.83		
2.31	617	79 Shell-Thick	INVSLE Combination	-1.7011	0.0599	-15.32		
02	617	79 Shell-Thick	INVSLE Combination	-8.4646	-1.1282	-35.71	4.363E-	
02	617	79 Shell-Thick	INVSLE Combination	-8.1791	-1.1576	-35.49	4.363E-	
0.15	617	79 Shell-Thick	INVSLE Combination	-4.0193	0.0227	-35.49	-	
0.15	617	79 Shell-Thick	INVSLE Combination	-4.2382	0.0076	-35.71	-	
1.69	618	80 Shell-Thick	INVSLE Combination	-1.2324	0.0367	-10.00		
1.69	618	80 Shell-Thick	INVSLE Combination	-1.1473	0.2776	-10.29		
1.95	618	80 Shell-Thick	INVSLE Combination	0.0547	0.8245	-10.29		
1.95	618	80 Shell-Thick	INVSLE Combination	-0.0440	0.6672	-10.00		
1.10	618	80 Shell-Thick	INVSLE Combination	-2.1926	0.0285	-17.08		
1.10	618	80 Shell-Thick	INVSLE Combination	-2.0725	0.1876	-17.19		
1.19	618	80 Shell-Thick	INVSLE Combination	-0.0596	0.6786	-17.19		
1.19	618	80 Shell-Thick	INVSLE Combination	-0.1701	0.4386	-17.08		
2.28	618	80 Shell-Thick	INVSLE Combination	-1.6637	0.0535	-13.50		
2.28	618	80 Shell-Thick	INVSLE Combination	-1.5489	0.3747	-13.90		
2.63	618	80 Shell-Thick	INVSLE Combination	0.0739	1.1350	-13.90		
2.63	618	80 Shell-Thick	INVSLE Combination	-0.0594	1.1352	-13.50		
0.12	618	80 Shell-Thick	INVSLE Combination	-4.1581	0.0385	-31.56	-	
0.12	618	80 Shell-Thick	INVSLE Combination	-3.9664	0.0033	-31.30	-	
0.35	618	80 Shell-Thick	INVSLE Combination	-0.2935	0.9161	-31.30	-	
0.35	618	80 Shell-Thick	INVSLE Combination	-0.4281	0.5920	-31.56	-	
1.93	619	81 Shell-Thick	INVSLE Combination	-0.0546	0.6624	-8.69		
1.93	619	81 Shell-Thick	INVSLE Combination	0.0466	0.8231	-8.92		
2.13	619	81 Shell-Thick	INVSLE Combination	1.6697	1.4089	-8.92		
2.13	619	81 Shell-Thick	INVSLE Combination	1.5783	1.2423	-8.69		
1.19	619	81 Shell-Thick	INVSLE Combination	-0.1804	0.4186	-14.87		
1.19	619	81 Shell-Thick	INVSLE Combination	-0.0803	0.6948	-14.92		
1.24	619	81 Shell-Thick	INVSLE Combination	1.0894	1.0680	-14.92		
1.24	619	81 Shell-Thick	INVSLE Combination	0.9768	0.7993	-14.87		
2.60	619	81 Shell-Thick	INVSLE Combination	-0.0737	1.1615	-11.74		
2.60	619	81 Shell-Thick	INVSLE Combination	0.0629	1.1304	-12.04		
2.87	619	81 Shell-Thick	INVSLE Combination	2.8574	2.1067	-12.04		
2.87	619	81 Shell-Thick	INVSLE Combination	2.8095	2.1492	-11.74		
0.32	619	81 Shell-Thick	INVSLE Combination	-0.4380	0.5651	-27.50	-	

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 207 di 416
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1.25	622	84 Shell-Thick	INVSLE Combination	2.4480	1.3793	-8.54		
1.25	622	84 Shell-Thick	INVSLE Combination	2.5433	1.7026	-8.52		
1.24	622	84 Shell-Thick	INVSLE Combination	3.1377	1.9489	-8.52		
1.24	622	84 Shell-Thick	INVSLE Combination	3.0357	1.6301	-8.54		
3.17	622	84 Shell-Thick	INVSLE Combination	7.6313	3.8194	-6.71		
3.17	622	84 Shell-Thick	INVSLE Combination	7.4284	3.6647	-6.84		
3.28	622	84 Shell-Thick	INVSLE Combination	9.2660	4.3243	-6.84		
3.28	622	84 Shell-Thick	INVSLE Combination	9.4949	4.4616	-6.71		
0.98	622	84 Shell-Thick	INVSLE Combination	3.3048	1.8621	-15.83	-	
0.98	622	84 Shell-Thick	INVSLE Combination	3.4334	2.2986	-15.59	-	
1.19	622	84 Shell-Thick	INVSLE Combination	4.2359	2.6310	-15.59	-	
1.19	622	84 Shell-Thick	INVSLE Combination	4.0982	2.2006	-15.83	-	
2.42	623	85 Shell-Thick	INVSLE Combination	5.0831	2.5448	-3.79		
2.42	623	85 Shell-Thick	INVSLE Combination	5.0537	2.7095	-3.85		
2.48	623	85 Shell-Thick	INVSLE Combination	5.8171	3.0064	-3.85		
2.48	623	85 Shell-Thick	INVSLE Combination	5.8495	2.8398	-3.79		
1.24	623	85 Shell-Thick	INVSLE Combination	2.9828	1.6121	-6.50		
1.24	623	85 Shell-Thick	INVSLE Combination	3.0715	1.9430	-6.48		
1.22	623	85 Shell-Thick	INVSLE Combination	3.5237	2.1354	-6.48		
1.22	623	85 Shell-Thick	INVSLE Combination	3.4298	1.8079	-6.50		
3.27	623	85 Shell-Thick	INVSLE Combination	9.3825	4.4540	-5.11		
3.27	623	85 Shell-Thick	INVSLE Combination	9.1111	4.2784	-5.20		
3.34	623	85 Shell-Thick	INVSLE Combination	10.5115	4.7892	-5.20		
3.34	623	85 Shell-Thick	INVSLE Combination	10.8023	4.9519	-5.11		
1.17	623	85 Shell-Thick	INVSLE Combination	4.0268	2.1764	-12.07	-	
1.17	623	85 Shell-Thick	INVSLE Combination	4.1465	2.6231	-11.88	-	
1.34	623	85 Shell-Thick	INVSLE Combination	4.7570	2.8828	-11.88	-	
1.34	623	85 Shell-Thick	INVSLE Combination	4.6303	2.4407	-12.07	-	
2.47	624	86 Shell-Thick	INVSLE Combination	5.7913	2.8276	-2.62		
2.47	624	86 Shell-Thick	INVSLE Combination	5.7348	2.9904	-2.66		
2.51	624	86 Shell-Thick	INVSLE Combination	6.2630	3.1997	-2.66		
2.51	624	86 Shell-Thick	INVSLE Combination	6.3209	3.0360	-2.62		
1.22	624	86 Shell-Thick	INVSLE Combination	3.3864	1.7938	-4.50		
1.22	624	86 Shell-Thick	INVSLE Combination	3.4674	2.1296	-4.48		
1.21	624	86 Shell-Thick	INVSLE Combination	3.7799	2.2652	-4.48		
1.21	624	86 Shell-Thick	INVSLE Combination	3.6952	1.9319	-4.50		
3.33	624	86 Shell-Thick	INVSLE Combination	10.7140	4.9439	-3.53		
3.33	624	86 Shell-Thick	INVSLE Combination	10.3761	4.7525	-3.59		
3.38	624	86 Shell-Thick	INVSLE Combination	11.3455	5.1128	-3.59		

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 208 di 416
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3.38	624	86 Shell-Thick	INVSLE Combination	11.6955	5.2961	-3.53		
1.33	624	86 Shell-Thick	INVSLE Combination	4.5717	2.4216	-8.35	-	
1.33	624	86 Shell-Thick	INVSLE Combination	4.6809	2.8749	-8.21	-	
1.45	624	86 Shell-Thick	INVSLE Combination	5.1029	3.0580	-8.21	-	
1.45	624	86 Shell-Thick	INVSLE Combination	4.9885	2.6081	-8.35	-	
2.50	625	87 Shell-Thick	INVSLE Combination	6.2768	3.0272	-1.46		
2.50	625	87 Shell-Thick	INVSLE Combination	6.2071	3.1886	-1.48		
2.52	625	87 Shell-Thick	INVSLE Combination	6.5023	3.3057	-1.48		
2.52	625	87 Shell-Thick	INVSLE Combination	6.5722	3.1442	-1.46		
1.21	625	87 Shell-Thick	INVSLE Combination	3.6637	1.9222	-2.51		
1.21	625	87 Shell-Thick	INVSLE Combination	3.7409	2.2608	-2.50		
1.20	625	87 Shell-Thick	INVSLE Combination	3.9155	2.3369	-2.50		
1.20	625	87 Shell-Thick	INVSLE Combination	3.8359	1.9999	-2.51		
3.38	625	87 Shell-Thick	INVSLE Combination	11.6256	5.2890	-1.97		
3.38	625	87 Shell-Thick	INVSLE Combination	11.2552	5.0878	-2.00		
3.40	625	87 Shell-Thick	INVSLE Combination	11.7973	5.2890	-2.00		
3.40	625	87 Shell-Thick	INVSLE Combination	12.1733	5.4864	-1.97		
1.45	625	87 Shell-Thick	INVSLE Combination	4.9460	2.5950	-4.67	-	
1.45	625	87 Shell-Thick	INVSLE Combination	5.0502	3.0520	-4.59	-	
1.52	625	87 Shell-Thick	INVSLE Combination	5.2860	3.1548	-4.59	-	
1.52	625	87 Shell-Thick	INVSLE Combination	5.1785	2.6999	-4.67	-	
2.52	626	88 Shell-Thick	INVSLE Combination	6.5524	3.1395	-0.31		
2.52	626	88 Shell-Thick	INVSLE Combination	6.4723	3.3004	-0.32		
2.52	626	88 Shell-Thick	INVSLE Combination	6.5360	3.3243	-0.32		
2.52	626	88 Shell-Thick	INVSLE Combination	6.6150	3.1641	-0.31		
1.20	626	88 Shell-Thick	INVSLE Combination	3.8211	1.9952	-0.54		
1.20	626	88 Shell-Thick	INVSLE Combination	3.8956	2.3346	-0.54		
1.19	626	88 Shell-Thick	INVSLE Combination	3.9333	2.3502	-0.54		
1.19	626	88 Shell-Thick	INVSLE Combination	3.8578	2.0114	-0.54		
3.40	626	88 Shell-Thick	INVSLE Combination	12.1431	5.4818	-0.42		
3.40	626	88 Shell-Thick	INVSLE Combination	11.7465	5.2774	-0.43		
3.41	626	88 Shell-Thick	INVSLE Combination	11.8636	5.3184	-0.43		
3.41	626	88 Shell-Thick	INVSLE Combination	12.2590	5.5237	-0.42		
1.52	626	88 Shell-Thick	INVSLE Combination	5.1585	2.6935	-1.00	-	
1.52	626	88 Shell-Thick	INVSLE Combination	5.2591	3.1517	-0.98	-	
1.53	626	88 Shell-Thick	INVSLE Combination	5.3100	3.1727	-0.98	-	
1.53	626	88 Shell-Thick	INVSLE Combination	5.2080	2.7154	-1.00	-	
2.52	627	89 Shell-Thick	INVSLE Combination	6.6149	3.1638	1.44		
2.52	627	89 Shell-Thick	INVSLE Combination	6.5393	3.3253	1.43		

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.diPag. 209 di 416
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2.51	627	89 Shell-Thick	INVSLE Combination	6.3719	3.2557	1.43		
2.51	627	89 Shell-Thick	INVSLE Combination	6.4451	3.0956	1.44		
1.19	627	89 Shell-Thick	INVSLE Combination	3.8588	2.0118	0.83		
1.19	627	89 Shell-Thick	INVSLE Combination	3.9358	2.3504	0.84		
1.20	627	89 Shell-Thick	INVSLE Combination	3.8368	2.3051	0.84		
1.20	627	89 Shell-Thick	INVSLE Combination	3.7602	1.9663	0.83		
3.41	627	89 Shell-Thick	INVSLE Combination	12.2564	5.5217	2.67		
3.41	627	89 Shell-Thick	INVSLE Combination	11.8687	5.3209	2.62		
3.39	627	89 Shell-Thick	INVSLE Combination	11.5612	5.2013	2.62		
3.39	627	89 Shell-Thick	INVSLE Combination	11.9411	5.4072	2.67		
1.53	627	89 Shell-Thick	INVSLE Combination	5.2094	2.7160	1.13	-	
1.53	627	89 Shell-Thick	INVSLE Combination	5.3133	3.1731	1.14	-	
1.49	627	89 Shell-Thick	INVSLE Combination	5.1796	3.1119	1.14	-	
1.49	627	89 Shell-Thick	INVSLE Combination	5.0762	2.6545	1.13	-	
2.52	628	90 Shell-Thick	INVSLE Combination	6.4701	3.0996	3.41		
2.52	628	90 Shell-Thick	INVSLE Combination	6.4025	3.2628	3.40		
2.49	628	90 Shell-Thick	INVSLE Combination	6.0031	3.0999	3.40		
2.49	628	90 Shell-Thick	INVSLE Combination	6.0672	2.9390	3.41		
1.20	628	90 Shell-Thick	INVSLE Combination	3.7785	1.9718	1.98		
1.20	628	90 Shell-Thick	INVSLE Combination	3.8594	2.3078	2.01		
1.21	628	90 Shell-Thick	INVSLE Combination	3.6231	2.2023	2.01		
1.21	628	90 Shell-Thick	INVSLE Combination	3.5440	1.8651	1.98		
3.40	628	90 Shell-Thick	INVSLE Combination	11.9797	5.4080	6.34		
3.40	628	90 Shell-Thick	INVSLE Combination	11.6081	5.2176	6.23		
3.36	628	90 Shell-Thick	INVSLE Combination	10.8748	4.9373	6.23		
3.36	628	90 Shell-Thick	INVSLE Combination	11.2321	5.1373	6.34		
1.50	628	90 Shell-Thick	INVSLE Combination	5.1010	2.6619	2.68	-	
1.50	628	90 Shell-Thick	INVSLE Combination	5.2102	3.1156	2.72	-	
1.40	628	90 Shell-Thick	INVSLE Combination	4.8912	2.9731	2.72	-	
1.40	628	90 Shell-Thick	INVSLE Combination	4.7844	2.5179	2.68	-	
2.49	629	91 Shell-Thick	INVSLE Combination	6.1085	2.9467	5.41		
2.49	629	91 Shell-Thick	INVSLE Combination	6.0626	3.1125	5.39		
2.49	629	91 Shell-Thick	INVSLE Combination	5.4295	2.8602	5.39		
2.45	629	91 Shell-Thick	INVSLE Combination	5.4704	2.6977	5.41		
1.21	629	91 Shell-Thick	INVSLE Combination	3.5758	1.8753	3.14		
1.21	629	91 Shell-Thick	INVSLE Combination	3.6649	2.2068	3.19		
1.23	629	91 Shell-Thick	INVSLE Combination	3.2901	2.0432	3.19		
1.23	629	91 Shell-Thick	INVSLE Combination	3.2041	1.7096	3.14		
3.37	629	91 Shell-Thick	INVSLE Combination	11.2928	5.1397	10.04		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 211 di 416
2.32	632	94 Shell-Thick	INVSLE Combination	3.6594	1.9829	11.55		
2.32	632	94 Shell-Thick	INVSLE Combination	3.7012	2.1546	11.56		
2.19	632	94 Shell-Thick	INVSLE Combination	2.3449	1.6603	11.56		
2.19	632	94 Shell-Thick	INVSLE Combination	2.2942	1.4946	11.55		
1.26	632	94 Shell-Thick	INVSLE Combination	2.1794	1.2645	6.74		
1.26	632	94 Shell-Thick	INVSLE Combination	2.2921	1.5654	6.88		
1.25	632	94 Shell-Thick	INVSLE Combination	1.4862	1.2487	6.88		
1.25	632	94 Shell-Thick	INVSLE Combination	1.3812	0.9427	6.74		
3.13	632	94 Shell-Thick	INVSLE Combination	6.6888	3.4534	21.40		
3.13	632	94 Shell-Thick	INVSLE Combination	6.5854	3.3606	21.12		
2.96	632	94 Shell-Thick	INVSLE Combination	4.1026	2.5029	21.12		
2.96	632	94 Shell-Thick	INVSLE Combination	4.1631	2.6243	21.40		
0.92	632	94 Shell-Thick	INVSLE Combination	2.9422	1.7071	9.10	-	
0.92	632	94 Shell-Thick	INVSLE Combination	3.0943	2.1133	9.29	-	
0.67	632	94 Shell-Thick	INVSLE Combination	2.0063	1.6857	9.29	-	
0.67	632	94 Shell-Thick	INVSLE Combination	1.8646	1.2726	9.10	-	
2.21	633	95 Shell-Thick	INVSLE Combination	2.3393	1.5040	13.68		
2.21	633	95 Shell-Thick	INVSLE Combination	2.4154	1.6740	13.71		
2.04	633	95 Shell-Thick	INVSLE Combination	0.8078	1.1178	13.71		
2.04	633	95 Shell-Thick	INVSLE Combination	0.7209	0.9550	13.68		
1.25	633	95 Shell-Thick	INVSLE Combination	1.4179	0.9628	7.99		
1.25	633	95 Shell-Thick	INVSLE Combination	1.5328	1.2452	8.18		
1.22	633	95 Shell-Thick	INVSLE Combination	0.5758	0.8898	8.18		
1.22	633	95 Shell-Thick	INVSLE Combination	0.4702	0.6013	7.99		
2.98	633	95 Shell-Thick	INVSLE Combination	4.2252	2.6117	25.32		
2.98	633	95 Shell-Thick	INVSLE Combination	4.2219	2.5518	25.03		
2.75	633	95 Shell-Thick	INVSLE Combination	1.2825	1.5844	25.03		
2.75	633	95 Shell-Thick	INVSLE Combination	1.2341	1.6789	25.32		
0.70	633	95 Shell-Thick	INVSLE Combination	1.9142	1.2998	10.79	-	
0.70	633	95 Shell-Thick	INVSLE Combination	2.0693	1.6811	11.05	-	
0.45	633	95 Shell-Thick	INVSLE Combination	0.7774	1.2013	11.05	-	
0.45	633	95 Shell-Thick	INVSLE Combination	0.6348	0.8117	10.79	-	
2.06	634	96 Shell-Thick	INVSLE Combination	0.7398	0.9596	15.86		
2.06	634	96 Shell-Thick	INVSLE Combination	0.8404	1.1235	15.93		
1.83	634	96 Shell-Thick	INVSLE Combination	-0.5182	0.5105	15.93		
1.83	634	96 Shell-Thick	INVSLE Combination	-0.6141	0.3545	15.86		
1.22	634	96 Shell-Thick	INVSLE Combination	0.4877	0.6203	9.28		
1.22	634	96 Shell-Thick	INVSLE Combination	0.5949	0.8781	9.53		
1.16	634	96 Shell-Thick	INVSLE Combination	-1.0258	0.4905	9.53		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 212 di 416
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1.16	634	96 Shell-Thick	INVSLE Combination	-1.1381	0.2252	9.28		
2.77	634	96 Shell-Thick	INVSLU Combination	1.2560	1.6541	29.33		
2.77	634	96 Shell-Thick	INVSLU Combination	1.3431	1.6258	29.04		
2.48	634	96 Shell-Thick	INVSLU Combination	-0.6996	0.6922	29.04		
2.48	634	96 Shell-Thick	INVSLU Combination	-0.8290	0.6192	29.33		
0.48	634	96 Shell-Thick	INVSLU Combination	0.6583	0.8374	12.52	-	
0.48	634	96 Shell-Thick	INVSLU Combination	0.8030	1.1854	12.86	-	
0.23	634	96 Shell-Thick	INVSLU Combination	-2.0647	0.5515	12.86	-	
0.23	634	96 Shell-Thick	INVSLU Combination	-2.2107	0.3041	12.52	-	
1.85	635	97 Shell-Thick	INVSLE Combination	-0.6290	0.3513	18.09		
1.85	635	97 Shell-Thick	INVSLE Combination	-0.5415	0.5036	18.23		
1.57	635	97 Shell-Thick	INVSLE Combination	-1.8159	0.0583	18.23		
1.57	635	97 Shell-Thick	INVSLE Combination	-1.8899	-0.1765	18.09		
1.16	635	97 Shell-Thick	INVSLE Combination	-1.1659	0.2411	10.60		
1.16	635	97 Shell-Thick	INVSLE Combination	-1.0488	0.4670	10.93		
1.04	635	97 Shell-Thick	INVSLE Combination	-3.1807	-0.1472	10.93		
1.04	635	97 Shell-Thick	INVSLE Combination	-3.3112	-0.2904	10.60		
2.50	635	97 Shell-Thick	INVSLU Combination	-0.8491	0.5770	33.42		
2.50	635	97 Shell-Thick	INVSLU Combination	-0.7311	0.6853	33.17		
2.12	635	97 Shell-Thick	INVSLU Combination	-2.4515	0.0787	33.17		
2.12	635	97 Shell-Thick	INVSLU Combination	-2.5514	-0.2383	33.42		
0.27	635	97 Shell-Thick	INVSLU Combination	-2.2651	0.3255	14.31	-	
0.27	635	97 Shell-Thick	INVSLU Combination	-2.0872	0.5784	14.75	-	
02	635	97 Shell-Thick	INVSLU Combination	-5.9744	-0.5677	14.75	-4.969E-	
02	635	97 Shell-Thick	INVSLU Combination	-6.2206	-0.5235	14.31	-4.969E-	
1.60	636	98 Shell-Thick	INVSLE Combination	-1.9491	-0.1660	20.39		
1.60	636	98 Shell-Thick	INVSLE Combination	-1.9003	0.0191	20.60		
1.24	636	98 Shell-Thick	INVSLE Combination	-3.3421	-0.4021	20.60		
1.24	636	98 Shell-Thick	INVSLE Combination	-3.3747	-0.5979	20.39		
1.04	636	98 Shell-Thick	INVSLE Combination	-3.4002	-0.3045	11.97		
1.04	636	98 Shell-Thick	INVSLE Combination	-3.2868	-0.1720	12.38		
0.86	636	98 Shell-Thick	INVSLE Combination	-5.6933	-0.8533	12.38		
0.86	636	98 Shell-Thick	INVSLE Combination	-5.8205	-0.9764	11.97		
2.15	636	98 Shell-Thick	INVSLU Combination	-2.6313	-0.2241	37.62		
2.15	636	98 Shell-Thick	INVSLU Combination	-2.5654	0.0258	37.42		
1.67	636	98 Shell-Thick	INVSLU Combination	-4.5119	-0.5429	37.42		
1.67	636	98 Shell-Thick	INVSLU Combination	-4.5558	-0.8072	37.62		
02	636	98 Shell-Thick	INVSLU Combination	-6.3705	-0.5881	16.16	-8.884E-	
02	636	98 Shell-Thick	INVSLU Combination	-6.1250	-0.5632	16.71	-8.884E-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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02	636	98 Shell-Thick	INVSLE Combination	-10.5060	-1.7768	16.71	8.336E-	
02	636	98 Shell-Thick	INVSLE Combination	-10.8270	-1.7512	16.16	8.336E-	
1.27	637	99 Shell-Thick	INVSLE Combination	-3.4927	-0.5951	22.74		
1.27	637	99 Shell-Thick	INVSLE Combination	-3.5067	-0.4614	23.05		
0.82	637	99 Shell-Thick	INVSLE Combination	-5.1221	-0.8818	23.05		
0.82	637	99 Shell-Thick	INVSLE Combination	-5.0887	-1.0282	22.74		
0.86	637	99 Shell-Thick	INVSLE Combination	-5.9922	-1.0051	13.38		
0.86	637	99 Shell-Thick	INVSLE Combination	-5.9077	-0.9019	13.89		
0.60	637	99 Shell-Thick	INVSLE Combination	-8.5970	-1.5909	13.89		
0.60	637	99 Shell-Thick	INVSLE Combination	-8.6963	-1.6841	13.38		
1.71	637	99 Shell-Thick	INVSLE Combination	-4.7151	-0.8035	41.92		
1.71	637	99 Shell-Thick	INVSLE Combination	-4.7341	-0.6229	41.80		
1.11	637	99 Shell-Thick	INVSLE Combination	-6.9149	-1.1904	41.80		
1.11	637	99 Shell-Thick	INVSLE Combination	-6.8697	-1.3881	41.92		
02	637	99 Shell-Thick	INVSLE Combination	-11.1087	-1.8442	18.06	4.175E-	
02	637	99 Shell-Thick	INVSLE Combination	-10.8222	-1.8034	18.75	4.175E-	
0.14	637	99 Shell-Thick	INVSLE Combination	-15.7098	-3.0424	18.75		
0.14	637	99 Shell-Thick	INVSLE Combination	-16.0809	-3.0265	18.06		
0.86	638	100 Shell-Thick	INVSLE Combination	-5.3421	-1.0372	25.78		
0.86	638	100 Shell-Thick	INVSLE Combination	-5.4919	-0.9974	26.25		
02	638	100 Shell-Thick	INVSLE Combination	-8.2411	-1.5974	26.25	-1.576E-	
02	638	100 Shell-Thick	INVSLE Combination	-8.0782	-1.6665	25.78	-1.576E-	
0.61	638	100 Shell-Thick	INVSLE Combination	-9.0712	-1.7471	15.19		
0.61	638	100 Shell-Thick	INVSLE Combination	-9.0769	-1.6988	15.89		
02	638	100 Shell-Thick	INVSLE Combination	-13.6660	-2.7176	15.89	-5.357E-	
02	638	100 Shell-Thick	INVSLE Combination	-13.6672	-2.7491	15.19	-5.357E-	
1.17	638	100 Shell-Thick	INVSLE Combination	-7.2118	-1.4003	47.45		
1.17	638	100 Shell-Thick	INVSLE Combination	-7.4140	-1.3465	47.47		
02	638	100 Shell-Thick	INVSLE Combination	-11.1255	-2.1565	47.47	6.165E-	
02	638	100 Shell-Thick	INVSLE Combination	-10.9056	-2.2498	47.45	6.165E-	
02	638	100 Shell-Thick	INVSLE Combination	-16.7044	-3.2001	20.50	8.778E-	
02	638	100 Shell-Thick	INVSLE Combination	-16.4153	-3.1346	21.45	8.778E-	
02	638	100 Shell-Thick	INVSLE Combination	-24.7704	-5.0105	21.45	-7.232E-	
02	638	100 Shell-Thick	INVSLE Combination	-25.1074	-4.9650	20.50	-7.232E-	
0.35	639	638 Shell-Thick	INVSLE Combination	2.5193	0.0282	10.17		
0.33	639	638 Shell-Thick	INVSLE Combination	1.3245	0.0265	10.17		
0.33	639	638 Shell-Thick	INVSLE Combination	1.3029	-0.0082	10.15		
0.35	639	638 Shell-Thick	INVSLE Combination	2.5003	-0.0095	10.15		
0.33	639	638 Shell-Thick	INVSLE Combination	0.9350	-0.0059	4.73		

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0.31	639	638 Shell-Thick	INVSLE Combination	0.3775	-0.0068		4.73	
0.31	639	638 Shell-Thick	INVSLE Combination	0.3218	-0.0481		4.70	
0.33	639	638 Shell-Thick	INVSLE Combination	0.8746	-0.0417		4.70	
0.48	639	638 Shell-Thick	INVSLE Combination	5.7623	0.0981	21.30		
0.45	639	638 Shell-Thick	INVSLE Combination	3.2632	0.0946	21.30		
0.45	639	638 Shell-Thick	INVSLE Combination	3.3111	0.0735	21.30		
0.48	639	638 Shell-Thick	INVSLE Combination	5.8282	0.0566	21.30		
0.28	639	638 Shell-Thick	INVSLE Combination	1.2623	-0.0080	6.38		
0.28	639	638 Shell-Thick	INVSLE Combination	0.5096	-0.0092	6.38		
0.28	639	638 Shell-Thick	INVSLE Combination	0.4345	-0.0649	6.35		
0.28	639	638 Shell-Thick	INVSLE Combination	1.1807	-0.0563	6.35		
0.94	640	639 Shell-Thick	INVSLE Combination	1.3424	0.0296	11.93		
0.86	640	639 Shell-Thick	INVSLE Combination	-0.0590	-0.0391	11.93		
0.86	640	639 Shell-Thick	INVSLE Combination	-0.1279	-0.1346	11.87		
0.94	640	639 Shell-Thick	INVSLE Combination	1.2726	-0.0649	11.87		
0.88	640	639 Shell-Thick	INVSLE Combination	0.4617	-0.0199	5.54		
0.81	640	639 Shell-Thick	INVSLE Combination	-0.1901	-0.0392	5.54		
0.81	640	639 Shell-Thick	INVSLE Combination	-0.2618	-0.1450	5.47		
0.88	640	639 Shell-Thick	INVSLE Combination	0.3819	-0.1165	5.47		
1.26	640	639 Shell-Thick	INVSLE Combination	3.1450	0.1309	25.01		
1.16	640	639 Shell-Thick	INVSLE Combination	0.2095	-0.0393	25.01		
1.16	640	639 Shell-Thick	INVSLE Combination	0.1462	-0.1132	24.97		
1.26	640	639 Shell-Thick	INVSLE Combination	3.0959	0.0408	24.97		
0.75	640	639 Shell-Thick	INVSLE Combination	0.6234	-0.0268	7.48		
0.71	640	639 Shell-Thick	INVSLE Combination	-0.2567	-0.0529	7.48		
0.71	640	639 Shell-Thick	INVSLE Combination	-0.3535	-0.1958	7.38		
0.75	640	639 Shell-Thick	INVSLE Combination	0.5155	-0.1573	7.38		
0.34	641	640 Shell-Thick	INVSLE Combination	1.2891	0.0165	11.87		
0.31	641	640 Shell-Thick	INVSLE Combination	-0.1056	-0.0209	11.87		
0.31	641	640 Shell-Thick	INVSLE Combination	-0.1628	-0.0544	11.85		
0.34	641	640 Shell-Thick	INVSLE Combination	1.2343	-0.0190	11.85		
0.32	641	640 Shell-Thick	INVSLE Combination	0.4058	-0.0062	5.46		
0.29	641	640 Shell-Thick	INVSLE Combination	-0.2389	-0.0216	5.46		
0.29	641	640 Shell-Thick	INVSLE Combination	-0.2976	-0.0605	5.44		
0.32	641	640 Shell-Thick	INVSLE Combination	0.3412	-0.0392	5.44		
0.45	641	640 Shell-Thick	INVSLE Combination	3.0974	0.0630	24.97		
0.42	641	640 Shell-Thick	INVSLE Combination	0.1672	-0.0229	24.97		
0.42	641	640 Shell-Thick	INVSLE Combination	0.1131	-0.0420	24.96		
0.45	641	640 Shell-Thick	INVSLE Combination	3.0623	0.0221	24.96		

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0.27	641	640 Shell-Thick	INVSLU Combination	0.5478	-0.0084	7.38		
0.26	641	640 Shell-Thick	INVSLU Combination	-0.3225	-0.0292	7.38		
0.26	641	640 Shell-Thick	INVSLU Combination	-0.4018	-0.0816	7.34		
0.27	641	640 Shell-Thick	INVSLU Combination	0.4607	-0.0529	7.34		
0.87	642	641 Shell-Thick	INVSLE Combination	-0.0492	-0.0377	13.61		
0.78	642	641 Shell-Thick	INVSLE Combination	-0.8661	-0.0807	13.61		
0.78	642	641 Shell-Thick	INVSLE Combination	-0.9396	-0.1791	13.53		
0.87	642	641 Shell-Thick	INVSLE Combination	-0.1717	-0.1251	13.53		
0.82	642	641 Shell-Thick	INVSLE Combination	-0.1308	-0.0468	6.25		
0.74	642	641 Shell-Thick	INVSLE Combination	-1.6475	-0.1805	6.25		
0.74	642	641 Shell-Thick	INVSLE Combination	-1.7685	-0.2692	6.16		
0.82	642	641 Shell-Thick	INVSLE Combination	-0.2141	-0.1338	6.16		
1.18	642	641 Shell-Thick	INVSLU Combination	0.1180	-0.0509	28.67		
1.05	642	641 Shell-Thick	INVSLU Combination	-1.1692	-0.1089	28.67		
1.05	642	641 Shell-Thick	INVSLU Combination	-1.2685	-0.2418	28.62		
1.18	642	641 Shell-Thick	INVSLU Combination	-0.0850	-0.1515	28.62		
0.71	642	641 Shell-Thick	INVSLU Combination	-0.1766	-0.0655	8.43		
0.66	642	641 Shell-Thick	INVSLU Combination	-3.2471	-0.3848	8.43		
0.66	642	641 Shell-Thick	INVSLU Combination	-3.4653	-0.4534	8.32		
0.71	642	641 Shell-Thick	INVSLU Combination	-0.2891	-0.1819	8.32		
0.31	643	642 Shell-Thick	INVSLE Combination	-0.1413	-0.0158	13.52		
0.28	643	642 Shell-Thick	INVSLE Combination	-0.9136	-0.0249	13.52		
0.28	643	642 Shell-Thick	INVSLE Combination	-0.9660	-0.0623	13.50		
0.31	643	642 Shell-Thick	INVSLE Combination	-0.2100	-0.0451	13.50		
0.29	643	642 Shell-Thick	INVSLE Combination	-0.1874	-0.0303	6.15		
0.26	643	642 Shell-Thick	INVSLE Combination	-1.7313	-0.0343	6.15		
0.26	643	642 Shell-Thick	INVSLE Combination	-1.8009	-0.0652	6.12		
0.29	643	642 Shell-Thick	INVSLE Combination	-0.2469	-0.0622	6.12		
0.42	643	642 Shell-Thick	INVSLU Combination	-0.0468	-0.0213	28.61		
0.38	643	642 Shell-Thick	INVSLU Combination	-1.2334	-0.0336	28.61		
0.38	643	642 Shell-Thick	INVSLU Combination	-1.3041	-0.0712	28.59		
0.42	643	642 Shell-Thick	INVSLU Combination	-0.1344	-0.0609	28.59		
0.25	643	642 Shell-Thick	INVSLU Combination	-0.2530	-0.0600	8.31		
0.24	643	642 Shell-Thick	INVSLU Combination	-3.4052	-0.0535	8.31		
0.24	643	642 Shell-Thick	INVSLU Combination	-3.5098	-0.0885	8.26		
0.25	643	642 Shell-Thick	INVSLU Combination	-0.3333	-0.0973	8.26		
0.79	644	643 Shell-Thick	INVSLE Combination	-0.7796	-0.0731	15.24		
0.67	644	643 Shell-Thick	INVSLE Combination	-1.5920	-0.1284	15.24		
0.67	644	643 Shell-Thick	INVSLE Combination	-1.6324	-0.2177	15.13		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 216 di 416
0.79	644	643 Shell-Thick	INVSLE Combination	-0.8326	-0.1481	15.13		
0.74	644	643 Shell-Thick	INVSLE Combination	-1.6512	-0.1848	6.90		
0.63	644	643 Shell-Thick	INVSLE Combination	-3.4420	-0.3306	6.90		
0.63	644	643 Shell-Thick	INVSLE Combination	-3.5198	-0.4115	6.79		
0.74	644	643 Shell-Thick	INVSLE Combination	-1.7352	-0.2589	6.79		
1.06	644	643 Shell-Thick	INVSLE Combination	-1.0525	-0.0986	32.30		
0.90	644	643 Shell-Thick	INVSLE Combination	-2.1492	-0.1733	32.30		
0.90	644	643 Shell-Thick	INVSLE Combination	-2.2038	-0.2939	32.20		
1.06	644	643 Shell-Thick	INVSLE Combination	-1.1241	-0.1999	32.20		
0.65	644	643 Shell-Thick	INVSLE Combination	-3.4354	-0.4135	9.32		
0.56	644	643 Shell-Thick	INVSLE Combination	-7.2287	-0.7444	9.32		
0.56	644	643 Shell-Thick	INVSLE Combination	-7.3832	-0.8083	9.17		
0.65	644	643 Shell-Thick	INVSLE Combination	-3.5826	-0.4858	9.17		
0.29	645	644 Shell-Thick	INVSLE Combination	-0.8032	-0.0115	15.13		
0.25	645	644 Shell-Thick	INVSLE Combination	-1.6041	-0.0657	15.13		
0.25	645	644 Shell-Thick	INVSLE Combination	-1.6748	-0.1003	15.09		
0.29	645	644 Shell-Thick	INVSLE Combination	-0.8821	-0.0368	15.09		
0.27	645	644 Shell-Thick	INVSLE Combination	-1.6904	-0.0370	6.79		
0.24	645	644 Shell-Thick	INVSLE Combination	-3.4698	-0.1593	6.79		
0.24	645	644 Shell-Thick	INVSLE Combination	-3.6366	-0.1882	6.75		
0.27	645	644 Shell-Thick	INVSLE Combination	-1.8574	-0.0656	6.75		
0.39	645	644 Shell-Thick	INVSLE Combination	-1.0844	-0.0155	32.21		
0.33	645	644 Shell-Thick	INVSLE Combination	-2.1656	-0.0887	32.21		
0.33	645	644 Shell-Thick	INVSLE Combination	-2.2610	-0.1355	32.18		
0.39	645	644 Shell-Thick	INVSLE Combination	-1.1909	-0.0497	32.18		
0.25	645	644 Shell-Thick	INVSLE Combination	-3.5063	-0.0891	9.16		
0.22	645	644 Shell-Thick	INVSLE Combination	-7.2886	-0.3507	9.16		
0.22	645	644 Shell-Thick	INVSLE Combination	-7.6521	-0.3680	9.11		
0.25	645	644 Shell-Thick	INVSLE Combination	-3.8537	-0.1246	9.11		
0.69	646	645 Shell-Thick	INVSLE Combination	-1.4062	-0.1098	16.80		
0.56	646	645 Shell-Thick	INVSLE Combination	-2.2875	-0.2251	16.80		
0.56	646	645 Shell-Thick	INVSLE Combination	-2.3611	-0.3032	16.70		
0.69	646	645 Shell-Thick	INVSLE Combination	-1.4941	-0.1715	16.70		
0.66	646	645 Shell-Thick	INVSLE Combination	-3.2756	-0.3246	7.49		
0.55	646	645 Shell-Thick	INVSLE Combination	-5.2510	-0.6232	7.49		
0.55	646	645 Shell-Thick	INVSLE Combination	-5.5138	-0.6951	7.36		
0.66	646	645 Shell-Thick	INVSLE Combination	-3.5448	-0.3892	7.36		
0.93	646	645 Shell-Thick	INVSLE Combination	-1.8983	-0.1482	35.86		
0.75	646	645 Shell-Thick	INVSLE Combination	-3.0881	-0.3039	35.86		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 217 di 416
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0.75	646	645 Shell-Thick	INVSLU Combination	-3.1875	-0.4093	35.82		
0.93	646	645 Shell-Thick	INVSLU Combination	-2.0171	-0.2315	35.82		
0.59	646	645 Shell-Thick	INVSLU Combination	-7.1023	-0.7643	10.11		
0.56	646	645 Shell-Thick	INVSLU Combination	-11.3173	-1.4379	10.11		
0.56	646	645 Shell-Thick	INVSLU Combination	-11.9673	-1.4972	9.94		
0.59	646	645 Shell-Thick	INVSLU Combination	-7.7424	-0.8349	9.94		
0.25	647	646 Shell-Thick	INVSLE Combination	-1.4559	-0.0403	16.67		
0.19	647	646 Shell-Thick	INVSLE Combination	-2.3231	-0.0536	16.67		
0.19	647	646 Shell-Thick	INVSLE Combination	-2.3462	-0.0843	16.61		
0.25	647	646 Shell-Thick	INVSLE Combination	-1.4895	-0.0590	16.61		
0.23	647	646 Shell-Thick	INVSLE Combination	-3.4669	-0.1555	7.35		
0.17	647	646 Shell-Thick	INVSLE Combination	-5.4289	-0.1145	7.35		
0.17	647	646 Shell-Thick	INVSLE Combination	-5.5118	-0.1401	7.29		
0.23	647	646 Shell-Thick	INVSLE Combination	-3.5551	-0.1751	7.29		
0.34	647	646 Shell-Thick	INVSLE Combination	-1.9655	-0.0545	35.76		
0.26	647	646 Shell-Thick	INVSLE Combination	-3.1362	-0.0724	35.76		
0.26	647	646 Shell-Thick	INVSLE Combination	-3.1673	-0.1138	35.68		
0.34	647	646 Shell-Thick	INVSLE Combination	-2.0109	-0.0797	35.68		
0.20	647	646 Shell-Thick	INVSLE Combination	-7.5833	-0.3913	9.92		
0.12	647	646 Shell-Thick	INVSLE Combination	-11.7861	-0.2393	9.92		
0.12	647	646 Shell-Thick	INVSLE Combination	-11.9916	-0.2543	9.84		
0.20	647	646 Shell-Thick	INVSLE Combination	-7.7834	-0.4126	9.84		
03	648	101 Shell-Thick	INVSLE Combination	-8.3772	-1.7048	-16.34	4.650E-	
03	648	101 Shell-Thick	INVSLE Combination	-8.4840	-1.6675	-16.96	4.650E-	
0.51	648	101 Shell-Thick	INVSLE Combination	-6.5148	-1.2425	-16.96		
0.51	648	101 Shell-Thick	INVSLE Combination	-6.4244	-1.2691	-16.34		
02	648	101 Shell-Thick	INVSLE Combination	-13.8221	-2.7605	-27.01	-3.077E-	
02	648	101 Shell-Thick	INVSLE Combination	-13.7142	-2.7468	-27.37	-3.077E-	
0.33	648	101 Shell-Thick	INVSLE Combination	-10.5247	-2.0464	-27.37		
0.33	648	101 Shell-Thick	INVSLE Combination	-10.6072	-2.0773	-27.01		
02	648	101 Shell-Thick	INVSLE Combination	-11.3093	-2.3014	-22.06	7.714E-	
02	648	101 Shell-Thick	INVSLE Combination	-11.4535	-2.2511	-22.89	7.714E-	
0.68	648	101 Shell-Thick	INVSLE Combination	-8.7950	-1.6774	-22.89		
0.68	648	101 Shell-Thick	INVSLE Combination	-8.6730	-1.7133	-22.06		
02	648	101 Shell-Thick	INVSLE Combination	-24.9676	-4.9215	-48.83	-4.153E-	
02	648	101 Shell-Thick	INVSLE Combination	-24.4202	-4.9560	-48.70	-4.153E-	
02	648	101 Shell-Thick	INVSLE Combination	-18.7327	-3.6919	-48.70	-3.842E-	
02	648	101 Shell-Thick	INVSLE Combination	-19.1693	-3.7316	-48.83	-3.842E-	
0.48	649	102 Shell-Thick	INVSLE Combination	-6.1646	-1.2447	-14.74		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 218 di 416
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0.48	649	102 Shell-Thick	INVSLE Combination	-6.1764	-1.1474	-15.23		
0.90	649	102 Shell-Thick	INVSLE Combination	-4.4045	-0.6960	-15.23		
0.90	649	102 Shell-Thick	INVSLE Combination	-4.4067	-0.7842	-14.74		
0.33	649	102 Shell-Thick	INVSLE Combination	-10.2517	-2.0080	-24.42		
0.33	649	102 Shell-Thick	INVSLE Combination	-10.0893	-1.9575	-24.67		
0.54	649	102 Shell-Thick	INVSLE Combination	-7.2099	-1.2300	-24.67		
0.54	649	102 Shell-Thick	INVSLE Combination	-7.3493	-1.2961	-24.42		
0.64	649	102 Shell-Thick	INVSLE Combination	-8.3222	-1.6803	-19.90		
0.64	649	102 Shell-Thick	INVSLE Combination	-8.3381	-1.5489	-20.56		
1.22	649	102 Shell-Thick	INVSLE Combination	-5.9461	-0.9396	-20.56		
1.22	649	102 Shell-Thick	INVSLE Combination	-5.9490	-1.0587	-19.90		
02	649	102 Shell-Thick	INVSLE Combination	-18.6179	-3.5705	-44.24	1.897E-	
02	649	102 Shell-Thick	INVSLE Combination	-18.0988	-3.6159	-43.99	1.897E-	
0.20	649	102 Shell-Thick	INVSLE Combination	-12.9524	-2.3232	-43.99	-	
0.20	649	102 Shell-Thick	INVSLE Combination	-13.3728	-2.3438	-44.24	-	
0.88	650	103 Shell-Thick	INVSLE Combination	-4.2457	-0.7755	-13.20		
0.88	650	103 Shell-Thick	INVSLE Combination	-4.1979	-0.6311	-13.58		
1.21	650	103 Shell-Thick	INVSLE Combination	-2.6151	-0.1707	-13.58		
1.21	650	103 Shell-Thick	INVSLE Combination	-2.6746	-0.3073	-13.20		
0.54	650	103 Shell-Thick	INVSLE Combination	-7.1300	-1.2524	-21.93		
0.54	650	103 Shell-Thick	INVSLE Combination	-6.9520	-1.1783	-22.07		
0.67	650	103 Shell-Thick	INVSLE Combination	-4.3717	-0.4515	-22.07		
0.67	650	103 Shell-Thick	INVSLE Combination	-4.5286	-0.5399	-21.93		
1.19	650	103 Shell-Thick	INVSLE Combination	-5.7317	-1.0470	-17.82		
1.19	650	103 Shell-Thick	INVSLE Combination	-5.6672	-0.8520	-18.33		
1.64	650	103 Shell-Thick	INVSLE Combination	-3.5303	-0.2304	-18.33		
1.64	650	103 Shell-Thick	INVSLE Combination	-3.6108	-0.4149	-17.82		
0.15	650	103 Shell-Thick	INVSLE Combination	-13.0342	-2.2284	-39.79	-	
0.15	650	103 Shell-Thick	INVSLE Combination	-12.5893	-2.2983	-39.45	-	
0.45	650	103 Shell-Thick	INVSLE Combination	-7.9674	-1.0264	-39.45	-	
0.45	650	103 Shell-Thick	INVSLE Combination	-8.3236	-1.0159	-39.79	-	
1.19	651	104 Shell-Thick	INVSLE Combination	-2.5925	-0.3109	-11.72		
1.19	651	104 Shell-Thick	INVSLE Combination	-2.5131	-0.1303	-12.01		
1.45	651	104 Shell-Thick	INVSLE Combination	-1.1108	0.3264	-12.01		
1.45	651	104 Shell-Thick	INVSLE Combination	-1.2007	0.1844	-11.72		
0.67	651	104 Shell-Thick	INVSLE Combination	-4.4167	-0.5165	-19.51		
0.67	651	104 Shell-Thick	INVSLE Combination	-4.2544	-0.4290	-19.58		
0.72	651	104 Shell-Thick	INVSLE Combination	-1.9614	0.2841	-19.58		
0.72	651	104 Shell-Thick	INVSLE Combination	-2.1057	0.1527	-19.51		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 219 di 416
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1.61	651	104 Shell-Thick	INVS LU Combination	-3.4998	-0.4197	-15.82		
1.61	651	104 Shell-Thick	INVS LU Combination	-3.3927	-0.1758	-16.21		
1.95	651	104 Shell-Thick	INVS LU Combination	-1.4996	0.4407	-16.21		
1.95	651	104 Shell-Thick	INVS LU Combination	-1.6209	0.2536	-15.82		
0.40	651	104 Shell-Thick	INVS LU Combination	-8.1508	-0.9375	-35.47	-	
0.40	651	104 Shell-Thick	INVS LU Combination	-7.8186	-1.0405	-35.07	-	
0.75	651	104 Shell-Thick	INVS LU Combination	-3.7025	0.1973	-35.07	-	
0.75	651	104 Shell-Thick	INVS LU Combination	-3.9582	0.2061	-35.47	-	
1.43	652	105 Shell-Thick	INVS LE Combination	-1.1796	0.1920	-10.29		
1.43	652	105 Shell-Thick	INVS LE Combination	-1.0874	0.3479	-10.51		
1.62	652	105 Shell-Thick	INVS LE Combination	0.1419	0.9597	-10.51		
1.62	652	105 Shell-Thick	INVS LE Combination	0.0406	0.8564	-10.29		
0.73	652	105 Shell-Thick	INVS LE Combination	-2.0782	0.1401	-17.18		
0.73	652	105 Shell-Thick	INVS LE Combination	-1.9478	0.2847	-17.18		
0.73	652	105 Shell-Thick	INVS LE Combination	0.0680	0.7858	-17.18		
0.73	652	105 Shell-Thick	INVS LE Combination	-0.0467	0.5841	-17.18		
1.93	652	105 Shell-Thick	INVS LU Combination	-1.5924	0.2981	-13.89		
1.93	652	105 Shell-Thick	INVS LU Combination	-1.4680	0.4696	-14.19		
2.18	652	105 Shell-Thick	INVS LU Combination	0.1916	1.3216	-14.19		
2.18	652	105 Shell-Thick	INVS LU Combination	0.0548	1.4137	-13.89		
0.71	652	105 Shell-Thick	INVS LU Combination	-3.9176	0.1892	-31.28	-	
0.71	652	105 Shell-Thick	INVS LU Combination	-3.7089	0.1553	-30.85	-	
1.09	652	105 Shell-Thick	INVS LU Combination	-0.0834	1.0609	-30.85	-	
1.09	652	105 Shell-Thick	INVS LU Combination	-0.2253	0.7886	-31.28	-	
1.60	653	106 Shell-Thick	INVS LE Combination	0.0186	0.8527	-8.92		
1.60	653	106 Shell-Thick	INVS LE Combination	0.1086	0.9449	-9.08		
1.74	653	106 Shell-Thick	INVS LE Combination	1.7548	1.5722	-9.08		
1.74	653	106 Shell-Thick	INVS LE Combination	1.6847	1.4716	-8.92		
0.73	653	106 Shell-Thick	INVS LE Combination	-0.0768	0.5657	-14.92		
0.73	653	106 Shell-Thick	INVS LE Combination	0.0059	0.7932	-14.88		
0.70	653	106 Shell-Thick	INVS LE Combination	1.1724	1.2024	-14.88		
0.70	653	106 Shell-Thick	INVS LE Combination	1.0740	0.9804	-14.92		
2.16	653	106 Shell-Thick	INVS LU Combination	0.0251	1.4403	-12.04		
2.16	653	106 Shell-Thick	INVS LU Combination	0.1467	1.2983	-12.25		
2.35	653	106 Shell-Thick	INVS LU Combination	2.9470	2.3292	-12.25		
2.35	653	106 Shell-Thick	INVS LU Combination	2.9346	2.4771	-12.04		
1.05	653	106 Shell-Thick	INVS LU Combination	-0.2723	0.7637	-27.21	-	
1.05	653	106 Shell-Thick	INVS LU Combination	-0.2043	1.0708	-26.77	-	
1.43	653	106 Shell-Thick	INVS LU Combination	1.5827	1.6233	-26.77	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 220 di 416
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1.43	653	106 Shell-Thick	INVSLU Combination	1.4500	1.3236	-27.21	-	
1.73	654	107 Shell-Thick	INVSLE Combination	1.6131	1.4604	-7.59		
1.73	654	107 Shell-Thick	INVSLE Combination	1.6478	1.5478	-7.70		
1.83	654	107 Shell-Thick	INVSLE Combination	3.1382	2.1094	-7.70		
1.83	654	107 Shell-Thick	INVSLE Combination	3.1140	2.0150	-7.59		
0.70	654	107 Shell-Thick	INVSLE Combination	1.0228	0.9588	-12.73		
0.70	654	107 Shell-Thick	INVSLE Combination	1.1036	1.2001	-12.67		
0.65	654	107 Shell-Thick	INVSLE Combination	2.0080	1.5695	-12.67		
0.65	654	107 Shell-Thick	INVSLE Combination	1.9200	1.3329	-12.73		
2.33	654	107 Shell-Thick	INVSLE Combination	2.8215	2.4872	-10.25		
2.33	654	107 Shell-Thick	INVSLE Combination	2.7618	2.2594	-10.40		
2.46	654	107 Shell-Thick	INVSLE Combination	5.4517	3.2145	-10.40		
2.46	654	107 Shell-Thick	INVSLE Combination	5.5581	3.4111	-10.25		
1.39	654	107 Shell-Thick	INVSLE Combination	1.3807	1.2943	-23.25	-	
1.39	654	107 Shell-Thick	INVSLE Combination	1.4898	1.6201	-22.83	-	
1.76	654	107 Shell-Thick	INVSLE Combination	2.7108	2.1188	-22.83	-	
1.76	654	107 Shell-Thick	INVSLE Combination	2.5919	1.7995	-23.25	-	
1.82	655	108 Shell-Thick	INVSLE Combination	3.0238	1.9996	-6.31		
1.82	655	108 Shell-Thick	INVSLE Combination	3.0052	2.0801	-6.39		
1.88	655	108 Shell-Thick	INVSLE Combination	4.2453	2.5695	-6.39		
1.88	655	108 Shell-Thick	INVSLE Combination	4.2717	2.4838	-6.31		
0.65	655	108 Shell-Thick	INVSLE Combination	1.8540	1.3104	-10.60		
0.65	655	108 Shell-Thick	INVSLE Combination	1.9194	1.5611	-10.53		
0.58	655	108 Shell-Thick	INVSLE Combination	2.6704	1.8837	-10.53		
0.58	655	108 Shell-Thick	INVSLE Combination	2.5985	1.6372	-10.60		
2.45	655	108 Shell-Thick	INVSLE Combination	5.4182	3.4104	-8.52		
2.45	655	108 Shell-Thick	INVSLE Combination	5.2277	3.1424	-8.62		
2.54	655	108 Shell-Thick	INVSLE Combination	7.4692	3.9732	-8.62		
2.54	655	108 Shell-Thick	INVSLE Combination	7.6967	4.2166	-8.52		
1.73	655	108 Shell-Thick	INVSLE Combination	2.5029	1.7690	-19.38	-	
1.73	655	108 Shell-Thick	INVSLE Combination	2.5912	2.1075	-19.00	-	
2.07	655	108 Shell-Thick	INVSLE Combination	3.6050	2.5430	-19.00	-	
2.07	655	108 Shell-Thick	INVSLE Combination	3.5080	2.2103	-19.38	-	
1.87	656	109 Shell-Thick	INVSLE Combination	4.1727	2.4669	-5.07		
1.87	656	109 Shell-Thick	INVSLE Combination	4.1099	2.5395	-5.12		
1.92	656	109 Shell-Thick	INVSLE Combination	5.1062	2.9446	-5.12		
1.92	656	109 Shell-Thick	INVSLE Combination	5.1749	2.8680	-5.07		
0.59	656	109 Shell-Thick	INVSLE Combination	2.5272	1.6157	-8.52		
0.59	656	109 Shell-Thick	INVSLE Combination	2.5776	1.8724	-8.45		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 221 di 416
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0.52	656	109 Shell-Thick	INVSLE Combination	3.1799	2.1409	-8.45		
0.52	656	109 Shell-Thick	INVSLE Combination	3.1242	1.8877	-8.52		
2.53	656	109 Shell-Thick	INVSLE Combination	7.5407	4.2091	-6.84		
2.53	656	109 Shell-Thick	INVSLE Combination	7.2465	3.9050	-6.91		
2.59	656	109 Shell-Thick	INVSLE Combination	9.0492	4.5898	-6.91		
2.59	656	109 Shell-Thick	INVSLE Combination	9.3725	4.8745	-6.84		
2.04	656	109 Shell-Thick	INVSLE Combination	3.4118	2.1812	-15.60	-	
2.04	656	109 Shell-Thick	INVSLE Combination	3.4798	2.5278	-15.26	-	
2.34	656	109 Shell-Thick	INVSLE Combination	4.2928	2.8902	-15.26	-	
2.34	656	109 Shell-Thick	INVSLE Combination	4.2176	2.5484	-15.60	-	
1.91	657	110 Shell-Thick	INVSLE Combination	5.0847	2.8519	-3.85		
1.91	657	110 Shell-Thick	INVSLE Combination	4.9791	2.9172	-3.88		
1.94	657	110 Shell-Thick	INVSLE Combination	5.7372	3.2341	-3.88		
1.94	657	110 Shell-Thick	INVSLE Combination	5.8465	3.1663	-3.85		
0.52	657	110 Shell-Thick	INVSLE Combination	3.0582	1.8689	-6.49		
0.52	657	110 Shell-Thick	INVSLE Combination	3.0929	2.1292	-6.42		
0.47	657	110 Shell-Thick	INVSLE Combination	3.5505	2.3392	-6.42		
0.47	657	110 Shell-Thick	INVSLE Combination	3.5114	2.0819	-6.49		
2.58	657	110 Shell-Thick	INVSLE Combination	9.2327	4.8642	-5.20		
2.58	657	110 Shell-Thick	INVSLE Combination	8.8402	4.5303	-5.24		
2.62	657	110 Shell-Thick	INVSLE Combination	10.2133	5.0658	-5.24		
2.62	657	110 Shell-Thick	INVSLE Combination	10.6264	5.3861	-5.20		
2.32	657	110 Shell-Thick	INVSLE Combination	4.1286	2.5230	-11.88	-	
2.32	657	110 Shell-Thick	INVSLE Combination	4.1754	2.8744	-11.61	-	
2.55	657	110 Shell-Thick	INVSLE Combination	4.7931	3.1580	-11.61	-	
2.55	657	110 Shell-Thick	INVSLE Combination	4.7405	2.8106	-11.88	-	
1.93	658	111 Shell-Thick	INVSLE Combination	5.7694	3.1527	-2.66		
1.93	658	111 Shell-Thick	INVSLE Combination	5.6353	3.2119	-2.68		
1.95	658	111 Shell-Thick	INVSLE Combination	6.1592	3.4337	-2.68		
1.95	658	111 Shell-Thick	INVSLE Combination	6.2955	3.3731	-2.66		
0.47	658	111 Shell-Thick	INVSLE Combination	3.4562	2.0668	-4.48		
0.47	658	111 Shell-Thick	INVSLE Combination	3.4796	2.3291	-4.43		
0.42	658	111 Shell-Thick	INVSLE Combination	3.7955	2.4766	-4.43		
0.42	658	111 Shell-Thick	INVSLE Combination	3.7688	2.2166	-4.48		
2.61	658	111 Shell-Thick	INVSLE Combination	10.5044	5.3755	-3.59		
2.61	658	111 Shell-Thick	INVSLE Combination	10.0480	5.0189	-3.61		
2.63	658	111 Shell-Thick	INVSLE Combination	10.9976	5.3927	-3.61		
2.63	658	111 Shell-Thick	INVSLE Combination	11.4673	5.7404	-3.59		
2.53	658	111 Shell-Thick	INVSLE Combination	4.6658	2.7902	-8.22	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 222 di 416
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2.53	658	111 Shell-Thick	INVSLU Combination	4.6974	3.1442	-8.02	-
2.70	658	111 Shell-Thick	INVSLU Combination	5.1240	3.3434	-8.02	-
2.70	658	111 Shell-Thick	INVSLU Combination	5.0879	2.9924	-8.22	-
1.95	659	112 Shell-Thick	INVSLE Combination	6.2437	3.3634	-1.48	-
1.95	659	112 Shell-Thick	INVSLE Combination	6.0862	3.4184	-1.49	-
1.95	659	112 Shell-Thick	INVSLE Combination	6.3791	3.5432	-1.49	-
1.95	659	112 Shell-Thick	INVSLE Combination	6.5370	3.4879	-1.48	-
0.42	659	112 Shell-Thick	INVSLE Combination	3.7310	2.2063	-2.50	-
0.42	659	112 Shell-Thick	INVSLE Combination	3.7455	2.4693	-2.47	-
0.40	659	112 Shell-Thick	INVSLE Combination	3.9220	2.5523	-2.47	-
0.40	659	112 Shell-Thick	INVSLE Combination	3.9053	2.2907	-2.50	-
2.63	659	112 Shell-Thick	INVSLU Combination	11.3872	5.7319	-2.00	-
2.63	659	112 Shell-Thick	INVSLU Combination	10.8776	5.3612	-2.02	-
2.64	659	112 Shell-Thick	INVSLU Combination	11.4086	5.5716	-2.02	-
2.64	659	112 Shell-Thick	INVSLU Combination	11.9240	5.9384	-2.00	-
2.69	659	112 Shell-Thick	INVSLU Combination	5.0369	2.9785	-4.59	-
2.69	659	112 Shell-Thick	INVSLU Combination	5.0565	3.3336	-4.48	-
2.79	659	112 Shell-Thick	INVSLU Combination	5.2947	3.4456	-4.48	-
2.79	659	112 Shell-Thick	INVSLU Combination	5.2721	3.0925	-4.59	-
1.95	660	113 Shell-Thick	INVSLE Combination	6.5097	3.4827	-0.32	-
1.95	660	113 Shell-Thick	INVSLE Combination	6.3452	3.5362	-0.32	-
1.96	660	113 Shell-Thick	INVSLE Combination	6.4086	3.5615	-0.32	-
1.96	660	113 Shell-Thick	INVSLE Combination	6.5719	3.5087	-0.32	-
0.40	660	113 Shell-Thick	INVSLE Combination	3.8863	2.2857	-0.54	-
0.40	660	113 Shell-Thick	INVSLE Combination	3.8984	2.5488	-0.53	-
0.39	660	113 Shell-Thick	INVSLE Combination	3.9366	2.5657	-0.53	-
0.39	660	113 Shell-Thick	INVSLE Combination	3.9235	2.3032	-0.54	-
2.64	660	113 Shell-Thick	INVSLU Combination	11.8795	5.9329	-0.43	-
2.64	660	113 Shell-Thick	INVSLU Combination	11.3537	5.5572	-0.43	-
2.64	660	113 Shell-Thick	INVSLU Combination	11.4686	5.5998	-0.43	-
2.64	660	113 Shell-Thick	INVSLU Combination	11.9932	5.9763	-0.43	-
2.79	660	113 Shell-Thick	INVSLU Combination	5.2465	3.0857	-0.98	-
2.79	660	113 Shell-Thick	INVSLU Combination	5.2629	3.4409	-0.96	-
2.81	660	113 Shell-Thick	INVSLU Combination	5.3144	3.4637	-0.96	-
2.81	660	113 Shell-Thick	INVSLU Combination	5.2967	3.1094	-0.98	-
1.96	661	114 Shell-Thick	INVSLE Combination	6.5762	3.5085	1.43	-
1.96	661	114 Shell-Thick	INVSLE Combination	6.4114	3.5631	1.41	-
1.95	661	114 Shell-Thick	INVSLE Combination	6.2457	3.4886	1.41	-
1.95	661	114 Shell-Thick	INVSLE Combination	6.4078	3.4359	1.43	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 223 di 416
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0.39	661	114 Shell-Thick	INVSLE Combination	3.9264	2.3037	0.85		
0.39	661	114 Shell-Thick	INVSLE Combination	3.9396	2.5664	0.85		
0.41	661	114 Shell-Thick	INVSLE Combination	3.8398	2.5169	0.85		
0.41	661	114 Shell-Thick	INVSLE Combination	3.8267	2.2542	0.85		
2.64	661	114 Shell-Thick	INVSLE Combination	12.0001	5.9747	2.62		
2.64	661	114 Shell-Thick	INVSLE Combination	11.4710	5.6033	2.56		
2.64	661	114 Shell-Thick	INVSLE Combination	11.1704	5.4777	2.56		
2.63	661	114 Shell-Thick	INVSLE Combination	11.6912	5.8547	2.62		
2.81	661	114 Shell-Thick	INVSLE Combination	5.3006	3.1100	1.14	-	
2.81	661	114 Shell-Thick	INVSLE Combination	5.3184	3.4646	1.15	-	
2.76	661	114 Shell-Thick	INVSLE Combination	5.1837	3.3978	1.15	-	
2.76	661	114 Shell-Thick	INVSLE Combination	5.1660	3.0432	1.14	-	
1.95	662	115 Shell-Thick	INVSLE Combination	6.4376	3.4404	3.40		
1.95	662	115 Shell-Thick	INVSLE Combination	6.2889	3.4987	3.36		
1.94	662	115 Shell-Thick	INVSLE Combination	5.8932	3.3261	3.36		
1.94	662	115 Shell-Thick	INVSLE Combination	6.0376	3.2707	3.40		
0.41	662	115 Shell-Thick	INVSLE Combination	3.8493	2.2601	2.01		
0.41	662	115 Shell-Thick	INVSLE Combination	3.8702	2.5216	2.03		
0.44	662	115 Shell-Thick	INVSLE Combination	3.6317	2.4067	2.03		
0.44	662	115 Shell-Thick	INVSLE Combination	3.6120	2.1444	2.01		
2.64	662	115 Shell-Thick	INVSLE Combination	11.7357	5.8564	6.23		
2.64	662	115 Shell-Thick	INVSLE Combination	11.2399	5.4988	6.08		
2.62	662	115 Shell-Thick	INVSLE Combination	10.5225	5.2080	6.08		
2.62	662	115 Shell-Thick	INVSLE Combination	11.0026	5.5761	6.23		
2.76	662	115 Shell-Thick	INVSLE Combination	5.1966	3.0511	2.72	-	
2.76	662	115 Shell-Thick	INVSLE Combination	5.2248	3.4042	2.73	-	
2.63	662	115 Shell-Thick	INVSLE Combination	4.9028	3.2491	2.73	-	
2.63	662	115 Shell-Thick	INVSLE Combination	4.8763	2.8950	2.72	-	
1.95	663	116 Shell-Thick	INVSLE Combination	6.0951	3.2795	5.39		
1.95	663	116 Shell-Thick	INVSLE Combination	5.9684	3.3438	5.33		
1.93	663	116 Shell-Thick	INVSLE Combination	5.3405	3.0745	5.33		
1.93	663	116 Shell-Thick	INVSLE Combination	5.4612	3.0141	5.39		
0.44	663	116 Shell-Thick	INVSLE Combination	3.6537	2.1553	3.20		
0.44	663	116 Shell-Thick	INVSLE Combination	3.6852	2.4149	3.22		
0.49	663	116 Shell-Thick	INVSLE Combination	3.3064	2.2362	3.22		
0.49	663	116 Shell-Thick	INVSLE Combination	3.2773	1.9751	3.20		
2.63	663	116 Shell-Thick	INVSLE Combination	11.0923	5.5806	9.87		
2.63	663	116 Shell-Thick	INVSLE Combination	10.6421	5.2454	9.65		
2.60	663	116 Shell-Thick	INVSLE Combination	9.5041	4.7904	9.65		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.diPag. 224 di 416
2.60	663	116 Shell-Thick	INVSLU Combination	9.9315	5.1408	9.87		
2.65	663	116 Shell-Thick	INVSLU Combination	4.9326	2.9097	4.31	-	
2.65	663	116 Shell-Thick	INVSLU Combination	4.9750	3.2601	4.34	-	
2.45	663	116 Shell-Thick	INVSLU Combination	4.4637	3.0188	4.34	-	
2.45	663	116 Shell-Thick	INVSLU Combination	4.4244	2.6664	4.31	-	
1.93	664	117 Shell-Thick	INVSLE Combination	5.5353	3.0259	7.40		
1.93	664	117 Shell-Thick	INVSLE Combination	5.4451	3.0983	7.33		
1.90	664	117 Shell-Thick	INVSLE Combination	4.5816	2.7381	7.33		
1.90	664	117 Shell-Thick	INVSLE Combination	4.6638	2.6710	7.40		
0.49	664	117 Shell-Thick	INVSLE Combination	3.3323	1.9902	4.40		
0.49	664	117 Shell-Thick	INVSLE Combination	3.3793	2.2465	4.43		
0.55	664	117 Shell-Thick	INVSLE Combination	2.8577	2.0075	4.43		
0.55	664	117 Shell-Thick	INVSLE Combination	2.8140	1.7490	4.40		
2.61	664	117 Shell-Thick	INVSLE Combination	10.0449	5.1460	13.56		
2.61	664	117 Shell-Thick	INVSLE Combination	9.6737	4.8419	13.26		
2.56	664	117 Shell-Thick	INVSLE Combination	8.1102	4.2334	13.26		
2.56	664	117 Shell-Thick	INVSLE Combination	8.4503	4.5582	13.56		
2.47	664	117 Shell-Thick	INVSLE Combination	4.4986	2.6868	5.93	-	
2.47	664	117 Shell-Thick	INVSLE Combination	4.5620	3.0328	5.98	-	
2.21	664	117 Shell-Thick	INVSLE Combination	3.8579	2.7101	5.98	-	
2.21	664	117 Shell-Thick	INVSLE Combination	3.7990	2.3612	5.93	-	
1.90	665	118 Shell-Thick	INVSLE Combination	4.7514	2.6845	9.46		
1.90	665	118 Shell-Thick	INVSLE Combination	4.7007	2.7659	9.38		
1.85	665	118 Shell-Thick	INVSLE Combination	3.5967	2.3179	9.38		
1.85	665	118 Shell-Thick	INVSLE Combination	3.6375	2.2432	9.46		
0.55	665	118 Shell-Thick	INVSLE Combination	2.8777	1.7674	5.62		
0.55	665	118 Shell-Thick	INVSLE Combination	2.9408	2.0185	5.68		
0.61	665	118 Shell-Thick	INVSLE Combination	2.2730	1.7228	5.68		
0.61	665	118 Shell-Thick	INVSLE Combination	2.2143	1.4688	5.62		
2.57	665	118 Shell-Thick	INVSLE Combination	8.5866	4.5619	17.30		
2.57	665	118 Shell-Thick	INVSLE Combination	8.3032	4.2957	16.94		
2.50	665	118 Shell-Thick	INVSLE Combination	6.3062	3.5362	16.94		
2.50	665	118 Shell-Thick	INVSLE Combination	6.5507	3.8283	17.30		
2.23	665	118 Shell-Thick	INVSLE Combination	3.8850	2.3860	7.59	-	
2.23	665	118 Shell-Thick	INVSLE Combination	3.9701	2.7250	7.67	-	
1.92	665	118 Shell-Thick	INVSLE Combination	3.0685	2.3257	7.67	-	
1.92	665	118 Shell-Thick	INVSLE Combination	2.9893	1.9828	7.59	-	
1.86	666	119 Shell-Thick	INVSLE Combination	3.7225	2.2562	11.55		
1.86	666	119 Shell-Thick	INVSLE Combination	3.7209	2.3467	11.48		

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1.78	666	119 Shell-Thick	INVSLE Combination	2.3706	1.8219	11.48		
1.78	666	119 Shell-Thick	INVSLE Combination	2.3598	1.7397	11.55		
0.61	666	119 Shell-Thick	INVSLE Combination	2.2772	1.4889	6.88		
0.61	666	119 Shell-Thick	INVSLE Combination	2.3575	1.7321	6.97		
0.67	666	119 Shell-Thick	INVSLE Combination	1.5391	1.3862	6.97		
0.67	666	119 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
2.51	666	119 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
2.51	666	119 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
2.41	666	119 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
2.41	666	119 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
1.95	666	119 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
1.95	666	119 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
1.59	666	119 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
1.59	666	119 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
1.79	667	120 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
1.79	667	120 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
1.68	667	120 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
1.68	667	120 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
0.67	667	120 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
0.67	667	120 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
0.72	667	120 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
0.72	667	120 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
2.42	667	120 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
2.42	667	120 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
2.27	667	120 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
2.27	667	120 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
1.63	667	120 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
1.63	667	120 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
1.25	667	120 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
1.25	667	120 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
1.69	668	121 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
1.69	668	121 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
1.54	668	121 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
1.54	668	121 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
0.71	668	121 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
0.71	668	121 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
0.73	668	121 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
0.73	668	121 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		
2.29	668	121 Shell-Thick	INVSLE Combination	1.4640	1.1395	6.88		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.diPag. 226 di 416
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2.29	668	121 Shell-Thick	INVSLU Combination	1.4949	1.8291	28.59		
2.07	668	121 Shell-Thick	INVSLU Combination	-0.6141	0.8447	28.59		
2.07	668	121 Shell-Thick	INVSLU Combination	-0.7413	0.8851	29.03		
1.29	668	121 Shell-Thick	INVSLU Combination	0.7827	1.0580	12.86	-	
1.29	668	121 Shell-Thick	INVSLU Combination	0.9197	1.3478	13.10	-	
0.91	668	121 Shell-Thick	INVSLU Combination	-1.8642	0.7145	13.10	-	
0.91	668	121 Shell-Thick	INVSLU Combination	-2.0082	0.4798	12.86	-	
1.55	669	122 Shell-Thick	INVSLE Combination	-0.5547	0.5238	18.22		
1.55	669	122 Shell-Thick	INVSLE Combination	-0.4571	0.6269	18.24		
1.34	669	122 Shell-Thick	INVSLE Combination	-1.7619	0.1119	18.24		
1.34	669	122 Shell-Thick	INVSLE Combination	-1.8511	-0.0849	18.22		
0.73	669	122 Shell-Thick	INVSLE Combination	-1.0355	0.3687	10.92		
0.73	669	122 Shell-Thick	INVSLE Combination	-0.9057	0.5599	11.17		
0.71	669	122 Shell-Thick	INVSLE Combination	-3.0427	-0.0690	11.17		
0.71	669	122 Shell-Thick	INVSLE Combination	-3.1924	-0.1588	10.92		
2.09	669	122 Shell-Thick	INVSLU Combination	-0.7488	0.8413	33.15		
2.09	669	122 Shell-Thick	INVSLU Combination	-0.6170	0.8564	32.73		
1.80	669	122 Shell-Thick	INVSLU Combination	-2.3785	0.1510	32.73		
1.80	669	122 Shell-Thick	INVSLU Combination	-2.4989	-0.1146	33.15		
0.95	669	122 Shell-Thick	INVSLU Combination	-2.0196	0.4977	14.74	-	
0.95	669	122 Shell-Thick	INVSLU Combination	-1.8239	0.7559	15.07	-	
0.58	669	122 Shell-Thick	INVSLU Combination	-5.6645	-0.4391	15.07	-	
0.58	669	122 Shell-Thick	INVSLU Combination	-5.9379	-0.3100	14.74	-	
1.35	670	123 Shell-Thick	INVSLE Combination	-1.9097	-0.0792	20.58		
1.35	670	123 Shell-Thick	INVSLE Combination	-1.8316	0.0805	20.68		
1.07	670	123 Shell-Thick	INVSLE Combination	-3.3124	-0.3781	20.68		
1.07	670	123 Shell-Thick	INVSLE Combination	-3.3808	-0.5440	20.58		
0.70	670	123 Shell-Thick	INVSLE Combination	-3.2729	-0.1780	12.37		
0.70	670	123 Shell-Thick	INVSLE Combination	-3.1199	-0.0813	12.70		
0.62	670	123 Shell-Thick	INVSLE Combination	-5.5380	-0.8003	12.70		
0.62	670	123 Shell-Thick	INVSLE Combination	-5.7140	-0.8815	12.37		
1.83	670	123 Shell-Thick	INVSLU Combination	-2.5780	-0.1069	37.39		
1.83	670	123 Shell-Thick	INVSLU Combination	-2.4727	0.1087	37.01		
1.44	670	123 Shell-Thick	INVSLU Combination	-4.4718	-0.5104	37.01		
1.44	670	123 Shell-Thick	INVSLU Combination	-4.5641	-0.7345	37.39		
0.63	670	123 Shell-Thick	INVSLU Combination	-6.0635	-0.3802	16.70	-	
0.63	670	123 Shell-Thick	INVSLU Combination	-5.7570	-0.4126	17.14	-	
0.30	670	123 Shell-Thick	INVSLU Combination	-10.0936	-1.6646	17.14	-	
0.30	670	123 Shell-Thick	INVSLU Combination	-10.4899	-1.5723	16.70	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 227 di 416
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1.09	671	124 Shell-Thick	INVSLE Combination	-3.5096	-0.5491	23.03		
1.09	671	124 Shell-Thick	INVSLE Combination	-3.4745	-0.4312	23.21		
0.72	671	124 Shell-Thick	INVSLE Combination	-5.1394	-0.8877	23.21		
0.72	671	124 Shell-Thick	INVSLE Combination	-5.1631	-1.0132	23.03		
0.62	671	124 Shell-Thick	INVSLE Combination	-5.8903	-0.9189	13.88		
0.62	671	124 Shell-Thick	INVSLE Combination	-5.7388	-0.8383	14.30		
0.46	671	124 Shell-Thick	INVSLE Combination	-8.4493	-1.5672	14.30		
0.46	671	124 Shell-Thick	INVSLE Combination	-8.6258	-1.6310	13.88		
1.47	671	124 Shell-Thick	INVSLE Combination	-4.7380	-0.7413	41.77		
1.47	671	124 Shell-Thick	INVSLE Combination	-4.6906	-0.5821	41.46		
0.97	671	124 Shell-Thick	INVSLE Combination	-6.9382	-1.1984	41.46		
0.97	671	124 Shell-Thick	INVSLE Combination	-6.9701	-1.3678	41.77		
0.35	671	124 Shell-Thick	INVSLE Combination	-10.7633	-1.6760	18.73	-	
0.35	671	124 Shell-Thick	INVSLE Combination	-10.3737	-1.6716	19.30	-	
02	671	124 Shell-Thick	INVSLE Combination	-15.2244	-2.9582	19.30	-8.020E-	
02	671	124 Shell-Thick	INVSLE Combination	-15.7139	-2.8957	18.73	-8.020E-	
0.75	672	125 Shell-Thick	INVSLE Combination	-5.4586	-1.0390	26.20		
0.75	672	125 Shell-Thick	INVSLE Combination	-5.5306	-0.9992	26.55		
03	672	125 Shell-Thick	INVSLE Combination	-8.3823	-1.6401	26.55	5.519E-	
03	672	125 Shell-Thick	INVSLE Combination	-8.3026	-1.6968	26.20	5.519E-	
0.46	672	125 Shell-Thick	INVSLE Combination	-9.0434	-1.7141	15.83		
0.46	672	125 Shell-Thick	INVSLE Combination	-8.9424	-1.6662	16.43		
02	672	125 Shell-Thick	INVSLE Combination	-13.5910	-2.7226	16.43	-3.817E-	
02	672	125 Shell-Thick	INVSLE Combination	-13.7064	-2.7369	15.83	-3.817E-	
1.02	672	125 Shell-Thick	INVSLE Combination	-7.3691	-1.4026	47.43		
1.02	672	125 Shell-Thick	INVSLE Combination	-7.4663	-1.3490	47.24		
02	672	125 Shell-Thick	INVSLE Combination	-11.3161	-2.2142	47.24	9.495E-	
02	672	125 Shell-Thick	INVSLE Combination	-11.2085	-2.2907	47.43	9.495E-	
0.16	672	125 Shell-Thick	INVSLE Combination	-16.3813	-3.0961	21.37	-	
0.16	672	125 Shell-Thick	INVSLE Combination	-15.9261	-3.0315	22.19	-	
02	672	125 Shell-Thick	INVSLE Combination	-24.2531	-4.9384	22.19	-5.153E-	
02	672	125 Shell-Thick	INVSLE Combination	-24.7677	-4.8657	21.37	-5.153E-	
0.56	673	647 Shell-Thick	INVSLE Combination	-2.0347	-0.1796	18.29		
0.38	673	647 Shell-Thick	INVSLE Combination	-2.9758	-0.4562	18.29		
0.38	673	647 Shell-Thick	INVSLE Combination	-2.8926	-0.5209	18.14		
0.56	673	647 Shell-Thick	INVSLE Combination	-1.9724	-0.2205	18.14		
0.54	673	647 Shell-Thick	INVSLE Combination	-5.1146	-0.5796	7.99		
0.38	673	647 Shell-Thick	INVSLE Combination	-7.2693	-1.2549	7.99		
0.38	673	647 Shell-Thick	INVSLE Combination	-7.1917	-1.3184	7.82		

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 228 di 416
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0.54	673	647 Shell-Thick	INVSLE Combination	-5.0572	-0.6200	7.82		
0.76	673	647 Shell-Thick	INVSLE Combination	-2.7468	-0.2424	39.38		
0.51	673	647 Shell-Thick	INVSLE Combination	-4.0173	-0.6158	39.38		
0.51	673	647 Shell-Thick	INVSLE Combination	-3.9051	-0.7032	39.26		
0.76	673	647 Shell-Thick	INVSLE Combination	-2.6627	-0.2977	39.26		
0.51	673	647 Shell-Thick	INVSLE Combination	-11.4191	-1.3985	10.79		
0.38	673	647 Shell-Thick	INVSLE Combination	-16.0579	-2.8900	10.79		
0.38	673	647 Shell-Thick	INVSLE Combination	-15.9916	-2.9509	10.55		
0.51	673	647 Shell-Thick	INVSLE Combination	-11.3717	-1.4378	10.55		
0.24	674	648 Shell-Thick	INVSLE Combination	-1.9226	-0.0090	18.12		
0.23	674	648 Shell-Thick	INVSLE Combination	-2.8453	-0.2465	18.12		
0.23	674	648 Shell-Thick	INVSLE Combination	-3.1431	-0.2753	18.11		
0.24	674	648 Shell-Thick	INVSLE Combination	-2.2309	-0.0258	18.11		
0.22	674	648 Shell-Thick	INVSLE Combination	-4.9325	-0.0965	7.81		
0.18	674	648 Shell-Thick	INVSLE Combination	-7.0671	-0.5953	7.81		
0.18	674	648 Shell-Thick	INVSLE Combination	-7.9521	-0.6236	7.78		
0.22	674	648 Shell-Thick	INVSLE Combination	-5.8211	-0.1208	7.78		
0.32	674	648 Shell-Thick	INVSLE Combination	-2.5955	-0.0121	39.22		
0.33	674	648 Shell-Thick	INVSLE Combination	-3.8411	-0.3328	39.22		
0.33	674	648 Shell-Thick	INVSLE Combination	-4.2432	-0.3716	39.27		
0.32	674	648 Shell-Thick	INVSLE Combination	-3.0117	-0.0348	39.27		
0.27	674	648 Shell-Thick	INVSLE Combination	-11.0936	-0.2756	10.54		
0.25	674	648 Shell-Thick	INVSLE Combination	-15.7089	-1.3093	10.54		
0.25	674	648 Shell-Thick	INVSLE Combination	-17.7959	-1.3367	10.50		
0.27	674	648 Shell-Thick	INVSLE Combination	-13.1700	-0.3152	10.50		
0.39	675	649 Shell-Thick	INVSLE Combination	-2.6582	-0.4027	20.01		
02	675	649 Shell-Thick	INVSLE Combination	-4.1363	-0.7679	20.01	-4.780E-	
02	675	649 Shell-Thick	INVSLE Combination	-3.7746	-0.8143	19.73	-4.780E-	
0.39	675	649 Shell-Thick	INVSLE Combination	-2.3091	-0.3941	19.73		
0.39	675	649 Shell-Thick	INVSLE Combination	-7.2251	-1.2575	8.48		
02	675	649 Shell-Thick	INVSLE Combination	-10.7386	-2.0940	8.48	-5.283E-	
02	675	649 Shell-Thick	INVSLE Combination	-10.4203	-2.1378	8.20	-5.283E-	
0.39	675	649 Shell-Thick	INVSLE Combination	-6.9181	-1.2523	8.20		
0.53	675	649 Shell-Thick	INVSLE Combination	-3.5886	-0.5436	43.62		
02	675	649 Shell-Thick	INVSLE Combination	-5.5840	-1.0366	43.62	-3.751E-	
02	675	649 Shell-Thick	INVSLE Combination	-5.0957	-1.0993	43.35	-3.751E-	
0.53	675	649 Shell-Thick	INVSLE Combination	-3.1173	-0.5320	43.35		
0.40	675	649 Shell-Thick	INVSLE Combination	-16.5734	-3.0071	11.45		
02	675	649 Shell-Thick	INVSLE Combination	-24.2531	-4.8084	11.45	-7.132E-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 229 di 416
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02	675	649 Shell-Thick	INVSLU Combination	-24.0238	-4.8470	11.07	-7.132E-	
0.40	675	649 Shell-Thick	INVSLE Combination	-16.3525	-3.0091	11.07		
0.13	676	650 Shell-Thick	INVSLE Combination	-2.2720	-0.0735	19.83		
02	676	650 Shell-Thick	INVSLE Combination	-3.7198	-0.6754	19.83	-6.064E-	
02	676	650 Shell-Thick	INVSLE Combination	-3.1775	-0.7041	19.70	-6.064E-	
0.13	676	650 Shell-Thick	INVSLE Combination	-1.7409	-0.0532	19.70		
0.12	676	650 Shell-Thick	INVSLE Combination	-6.8204	-0.4161	8.23		
02	676	650 Shell-Thick	INVSLE Combination	-10.3170	-1.9689	8.23	-8.372E-	
02	676	650 Shell-Thick	INVSLE Combination	-9.5688	-2.0082	8.11	-8.372E-	
0.12	676	650 Shell-Thick	INVSLE Combination	-6.0892	-0.3808	8.11		
0.18	676	650 Shell-Thick	INVSLE Combination	-3.0672	-0.0992	43.56		
02	676	650 Shell-Thick	INVSLE Combination	-5.0217	-0.9118	43.56	-8.186E-	
02	676	650 Shell-Thick	INVSLE Combination	-4.2897	-0.9505	43.42	-8.186E-	
0.18	676	650 Shell-Thick	INVSLE Combination	-2.3503	-0.0718	43.42		
02	676	650 Shell-Thick	INVSLE Combination	-16.1308	-1.1175	11.11	8.826E-	
0.13	676	650 Shell-Thick	INVSLE Combination	-23.8211	-4.6167	11.11	-	
0.13	676	650 Shell-Thick	INVSLE Combination	-22.6513	-4.6778	10.95	-	
02	676	650 Shell-Thick	INVSLE Combination	-14.9898	-1.0516	10.95	8.826E-	
02	682	126 Shell-Thick	INVSLE Combination	-8.5176	-1.7178	-16.94	2.605E-	
02	682	126 Shell-Thick	INVSLE Combination	-8.5154	-1.6888	-17.44	2.605E-	
0.42	682	126 Shell-Thick	INVSLE Combination	-6.4889	-1.2402	-17.44		
0.42	682	126 Shell-Thick	INVSLE Combination	-6.4960	-1.2660	-16.94		
02	682	126 Shell-Thick	INVSLE Combination	-13.7419	-2.7241	-27.34	-1.490E-	
02	682	126 Shell-Thick	INVSLE Combination	-13.4865	-2.7216	-27.56	-1.490E-	
0.21	682	126 Shell-Thick	INVSLE Combination	-10.2738	-1.9998	-27.56		
0.21	682	126 Shell-Thick	INVSLE Combination	-10.4891	-2.0294	-27.34		
0.11	682	126 Shell-Thick	INVSLE Combination	-11.4987	-2.3190	-22.86		
0.11	682	126 Shell-Thick	INVSLE Combination	-11.4958	-2.2799	-23.54		
0.57	682	126 Shell-Thick	INVSLE Combination	-8.7600	-1.6742	-23.54		
0.57	682	126 Shell-Thick	INVSLE Combination	-8.7697	-1.7091	-22.86		
02	682	126 Shell-Thick	INVSLE Combination	-24.4359	-4.7841	-48.64	-2.012E-	
02	682	126 Shell-Thick	INVSLE Combination	-23.6622	-4.8355	-48.27	-2.012E-	
0.22	682	126 Shell-Thick	INVSLE Combination	-18.0212	-3.5547	-48.27	-	
0.22	682	126 Shell-Thick	INVSLE Combination	-18.6626	-3.5919	-48.64	-	
0.40	683	127 Shell-Thick	INVSLE Combination	-6.2093	-1.2284	-15.21		
0.40	683	127 Shell-Thick	INVSLE Combination	-6.1413	-1.1509	-15.59		
0.73	683	127 Shell-Thick	INVSLE Combination	-4.3250	-0.6696	-15.59		
0.73	683	127 Shell-Thick	INVSLE Combination	-4.3975	-0.7443	-15.21		
0.22	683	127 Shell-Thick	INVSLE Combination	-10.1098	-1.9450	-24.65		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 230 di 416
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0.22	683	127 Shell-Thick	INVSLE Combination	-9.8396	-1.9215	-24.74		
0.30	683	127 Shell-Thick	INVSLE Combination	-6.9494	-1.1675	-24.74		
0.30	683	127 Shell-Thick	INVSLE Combination	-7.1839	-1.2149	-24.65		
0.54	683	127 Shell-Thick	INVSLE Combination	-8.3826	-1.6584	-20.54		
0.54	683	127 Shell-Thick	INVSLE Combination	-8.2908	-1.5537	-21.05		
0.99	683	127 Shell-Thick	INVSLE Combination	-5.8388	-0.9039	-21.05		
0.99	683	127 Shell-Thick	INVSLE Combination	-5.9366	-1.0048	-20.54		
0.14	683	127 Shell-Thick	INVSLE Combination	-18.0938	-3.4116	-43.95	-	
0.14	683	127 Shell-Thick	INVSLE Combination	-17.4098	-3.4989	-43.46	-	
0.57	683	127 Shell-Thick	INVSLE Combination	-12.3213	-2.1866	-43.46	-	
0.57	683	127 Shell-Thick	INVSLE Combination	-12.8875	-2.1781	-43.95	-	
0.71	684	128 Shell-Thick	INVSLE Combination	-4.2279	-0.7271	-13.57		
0.71	684	128 Shell-Thick	INVSLE Combination	-4.1287	-0.6136	-13.84		
0.95	684	128 Shell-Thick	INVSLE Combination	-2.5121	-0.1179	-13.84		
0.95	684	128 Shell-Thick	INVSLE Combination	-2.6158	-0.2284	-13.57		
0.31	684	128 Shell-Thick	INVSLE Combination	-6.9630	-1.1617	-22.06		
0.31	684	128 Shell-Thick	INVSLE Combination	-6.7168	-1.1299	-22.05		
0.31	684	128 Shell-Thick	INVSLE Combination	-4.1346	-0.3649	-22.05		
0.31	684	128 Shell-Thick	INVSLE Combination	-4.3505	-0.4171	-22.06		
0.96	684	128 Shell-Thick	INVSLE Combination	-5.7077	-0.9816	-18.32		
0.96	684	128 Shell-Thick	INVSLE Combination	-5.5737	-0.8284	-18.69		
1.29	684	128 Shell-Thick	INVSLE Combination	-3.3913	-0.1592	-18.69		
1.29	684	128 Shell-Thick	INVSLE Combination	-3.5314	-0.3084	-18.32		
0.50	684	128 Shell-Thick	INVSLE Combination	-12.5615	-2.0515	-39.42	-	
0.50	684	128 Shell-Thick	INVSLE Combination	-12.0145	-2.1867	-38.85	-	
1.00	684	128 Shell-Thick	INVSLE Combination	-7.4560	-0.8706	-38.85	-	
1.00	684	128 Shell-Thick	INVSLE Combination	-7.9012	-0.8033	-39.42	-	
0.94	685	129 Shell-Thick	INVSLE Combination	-2.5387	-0.2269	-12.00		
0.94	685	129 Shell-Thick	INVSLE Combination	-2.4325	-0.0882	-12.19		
1.10	685	129 Shell-Thick	INVSLE Combination	-1.0055	0.4029	-12.19		
1.10	685	129 Shell-Thick	INVSLE Combination	-1.1164	0.3405	-12.00		
0.32	685	129 Shell-Thick	INVSLE Combination	-4.2548	-0.3886	-19.57		
0.32	685	129 Shell-Thick	INVSLE Combination	-4.0561	-0.3586	-19.49		
0.25	685	129 Shell-Thick	INVSLE Combination	-1.7689	0.3879	-19.49		
0.25	685	129 Shell-Thick	INVSLE Combination	-1.9416	0.2672	-19.57		
1.27	685	129 Shell-Thick	INVSLE Combination	-3.4273	-0.3062	-16.20		
1.27	685	129 Shell-Thick	INVSLE Combination	-3.2838	-0.1190	-16.46		
1.49	685	129 Shell-Thick	INVSLE Combination	-1.3574	0.5440	-16.46		
1.49	685	129 Shell-Thick	INVSLE Combination	-1.5071	0.4905	-16.20		

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 231 di 416
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0.94	685	129 Shell-Thick	INVSLU Combination	-7.7674	-0.7198	-35.06	-	
0.94	685	129 Shell-Thick	INVSLU Combination	-7.3796	-0.9121	-34.44	-	
1.48	685	129 Shell-Thick	INVSLU Combination	-3.3314	0.3571	-34.44	-	
1.48	685	129 Shell-Thick	INVSLU Combination	-3.6309	0.3608	-35.06	-	
1.09	686	130 Shell-Thick	INVSLE Combination	-1.1081	0.3504	-10.51	-	
1.09	686	130 Shell-Thick	INVSLE Combination	-1.0125	0.4130	-10.63	-	
1.20	686	130 Shell-Thick	INVSLE Combination	0.2345	1.0845	-10.63	-	
1.20	686	130 Shell-Thick	INVSLE Combination	0.1340	1.0493	-10.51	-	
0.27	686	130 Shell-Thick	INVSLE Combination	-1.9376	0.2575	-17.18	-	
0.27	686	130 Shell-Thick	INVSLE Combination	-1.8044	0.3717	-17.05	-	
0.15	686	130 Shell-Thick	INVSLE Combination	0.2011	0.8854	-17.05	-	
0.15	686	130 Shell-Thick	INVSLE Combination	0.0889	0.7331	-17.18	-	
1.47	686	130 Shell-Thick	INVSLU Combination	-1.4959	0.5407	-14.18	-	
1.47	686	130 Shell-Thick	INVSLU Combination	-1.3669	0.5575	-14.35	-	
1.62	686	130 Shell-Thick	INVSLU Combination	0.3165	1.4939	-14.35	-	
1.62	686	130 Shell-Thick	INVSLU Combination	0.1809	1.6964	-14.18	-	
1.43	686	130 Shell-Thick	INVSLU Combination	-3.6356	0.3476	-30.84	-	
1.43	686	130 Shell-Thick	INVSLU Combination	-3.4255	0.2871	-30.21	-	
1.98	686	130 Shell-Thick	INVSLU Combination	0.1327	1.1953	-30.21	-	
1.98	686	130 Shell-Thick	INVSLU Combination	-0.0034	0.9897	-30.84	-	
1.19	687	131 Shell-Thick	INVSLE Combination	0.0930	1.0458	-9.08	-	
1.19	687	131 Shell-Thick	INVSLE Combination	0.1686	1.0532	-9.15	-	
1.25	687	131 Shell-Thick	INVSLE Combination	1.8252	1.7103	-9.15	-	
1.25	687	131 Shell-Thick	INVSLE Combination	1.7786	1.6915	-9.08	-	
0.17	687	131 Shell-Thick	INVSLE Combination	0.0262	0.7157	-14.88	-	
0.17	687	131 Shell-Thick	INVSLE Combination	0.0901	0.8814	-14.73	-	
02	687	131 Shell-Thick	INVSLE Combination	1.2442	1.3210	-14.73	2.977E-	
02	687	131 Shell-Thick	INVSLE Combination	1.1637	1.1585	-14.88	2.977E-	
1.60	687	131 Shell-Thick	INVSLU Combination	0.1256	1.7215	-12.25	-	
1.60	687	131 Shell-Thick	INVSLU Combination	0.2276	1.4476	-12.35	-	
1.69	687	131 Shell-Thick	INVSLU Combination	3.0146	2.5073	-12.35	-	
1.69	687	131 Shell-Thick	INVSLU Combination	3.0371	2.7825	-12.25	-	
1.93	687	131 Shell-Thick	INVSLU Combination	-0.1105	0.9662	-26.77	-	
1.93	687	131 Shell-Thick	INVSLU Combination	-0.0706	1.1899	-26.15	-	
2.47	687	131 Shell-Thick	INVSLU Combination	1.6796	1.7833	-26.15	-	
2.47	687	131 Shell-Thick	INVSLU Combination	1.5710	1.5640	-26.77	-	
1.24	688	132 Shell-Thick	INVSLE Combination	1.6770	1.6794	-7.71	-	
1.24	688	132 Shell-Thick	INVSLE Combination	1.6667	1.6704	-7.74	-	
1.28	688	132 Shell-Thick	INVSLE Combination	3.1425	2.2621	-7.74	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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1.28	688	132 Shell-Thick	INVSLE Combination	3.1659	2.2623	-7.71		
02	688	132 Shell-Thick	INVSLE Combination	1.0926	1.1368	-12.67	3.895E-	
02	688	132 Shell-Thick	INVSLE Combination	1.1414	1.3079	-12.50	3.895E-	
0.11	688	132 Shell-Thick	INVSLE Combination	2.0536	1.7050	-12.50	-	
0.11	688	132 Shell-Thick	INVSLE Combination	1.9999	1.5372	-12.67	-	
1.68	688	132 Shell-Thick	INVSLE Combination	2.8732	2.7899	-10.40		
1.68	688	132 Shell-Thick	INVSLE Combination	2.7419	2.4125	-10.45		
1.72	688	132 Shell-Thick	INVSLE Combination	5.3713	3.4025	-10.45		
1.72	688	132 Shell-Thick	INVSLE Combination	5.5528	3.7465	-10.40		
2.43	688	132 Shell-Thick	INVSLE Combination	1.4750	1.5347	-22.83	-	
2.43	688	132 Shell-Thick	INVSLE Combination	1.5409	1.7657	-22.25	-	
2.94	688	132 Shell-Thick	INVSLE Combination	2.7724	2.3018	-22.25	-	
2.94	688	132 Shell-Thick	INVSLE Combination	2.6998	2.0753	-22.83	-	
1.27	689	133 Shell-Thick	INVSLE Combination	3.0421	2.2453	-6.39		
1.27	689	133 Shell-Thick	INVSLE Combination	2.9657	2.2191	-6.40		
1.28	689	133 Shell-Thick	INVSLE Combination	4.1910	2.7304	-6.40		
1.28	689	133 Shell-Thick	INVSLE Combination	4.2775	2.7498	-6.39		
02	689	133 Shell-Thick	INVSLE Combination	1.9126	1.5140	-10.53	-9.824E-	
02	689	133 Shell-Thick	INVSLE Combination	1.9345	1.6870	-10.37	-9.824E-	
0.24	689	133 Shell-Thick	INVSLE Combination	2.6900	2.0321	-10.37	-	
0.24	689	133 Shell-Thick	INVSLE Combination	2.6635	1.8622	-10.53	-	
1.71	689	133 Shell-Thick	INVSLE Combination	5.3541	3.7421	-8.63		
1.71	689	133 Shell-Thick	INVSLE Combination	5.0767	3.3083	-8.64		
1.73	689	133 Shell-Thick	INVSLE Combination	7.2635	4.1596	-8.64		
1.73	689	133 Shell-Thick	INVSLE Combination	7.5814	4.5666	-8.63		
2.90	689	133 Shell-Thick	INVSLE Combination	2.5820	2.0439	-19.00	-	
2.90	689	133 Shell-Thick	INVSLE Combination	2.6115	2.2774	-18.48	-	
3.35	689	133 Shell-Thick	INVSLE Combination	3.6315	2.7434	-18.48	-	
3.35	689	133 Shell-Thick	INVSLE Combination	3.5957	2.5140	-19.00	-	
1.28	690	134 Shell-Thick	INVSLE Combination	4.1529	2.7311	-5.12		
1.28	690	134 Shell-Thick	INVSLE Combination	4.0134	2.6886	-5.12		
1.27	690	134 Shell-Thick	INVSLE Combination	4.9964	3.1139	-5.12		
1.27	690	134 Shell-Thick	INVSLE Combination	5.1429	3.1517	-5.12		
0.23	690	134 Shell-Thick	INVSLE Combination	2.5741	1.8398	-8.45	-	
0.23	690	134 Shell-Thick	INVSLE Combination	2.5689	2.0125	-8.30	-	
0.36	690	134 Shell-Thick	INVSLE Combination	3.1738	2.2999	-8.30	-	
0.36	690	134 Shell-Thick	INVSLE Combination	3.1747	2.1300	-8.45	-	
1.72	690	134 Shell-Thick	INVSLE Combination	7.3845	4.5557	-6.91		
1.72	690	134 Shell-Thick	INVSLE Combination	6.9702	4.0725	-6.91		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 233 di 416
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1.72	690	134 Shell-Thick	INVSLU Combination	8.7272	4.7799	-6.91		
1.72	690	134 Shell-Thick	INVSLU Combination	9.1719	5.2429	-6.91		
3.32	690	134 Shell-Thick	INVSLU Combination	3.4750	2.4837	-15.27	-	
3.32	690	134 Shell-Thick	INVSLU Combination	3.4681	2.7169	-14.82	-	
3.71	690	134 Shell-Thick	INVSLU Combination	4.2846	3.1049	-14.82	-	
3.71	690	134 Shell-Thick	INVSLU Combination	4.2858	2.8755	-15.27	-	
1.27	691	135 Shell-Thick	INVSLE Combination	5.0267	3.1338	-3.88		
1.27	691	135 Shell-Thick	INVSLE Combination	4.8388	3.0770	-3.88		
1.26	691	135 Shell-Thick	INVSLE Combination	5.5856	3.4071	-3.88		
1.26	691	135 Shell-Thick	INVSLE Combination	5.7783	3.4608	-3.88		
0.36	691	135 Shell-Thick	INVSLE Combination	3.0919	2.1101	-6.42	-	
0.36	691	135 Shell-Thick	INVSLE Combination	3.0647	2.2815	-6.30	-	
0.46	691	135 Shell-Thick	INVSLE Combination	3.5235	2.5054	-6.30	-	
0.46	691	135 Shell-Thick	INVSLE Combination	3.5471	2.3365	-6.42	-	
1.71	691	135 Shell-Thick	INVSLE Combination	8.9871	5.2292	-5.24		
1.71	691	135 Shell-Thick	INVSLE Combination	8.4702	4.7053	-5.23		
1.70	691	135 Shell-Thick	INVSLE Combination	9.8067	5.2528	-5.23		
1.70	691	135 Shell-Thick	INVSLE Combination	10.3456	5.7621	-5.24		
3.69	691	135 Shell-Thick	INVSLE Combination	4.1740	2.8486	-11.62	-	
3.69	691	135 Shell-Thick	INVSLE Combination	4.1374	3.0800	-11.26	-	
4.00	691	135 Shell-Thick	INVSLE Combination	4.7567	3.3823	-11.26	-	
4.00	691	135 Shell-Thick	INVSLE Combination	4.7886	3.1542	-11.62	-	
1.26	692	136 Shell-Thick	INVSLE Combination	5.6857	3.4458	-2.68		
1.26	692	136 Shell-Thick	INVSLE Combination	5.4568	3.3778	-2.67		
1.25	692	136 Shell-Thick	INVSLE Combination	5.9727	3.6099	-2.67		
1.25	692	136 Shell-Thick	INVSLE Combination	6.2041	3.6763	-2.68		
0.46	692	136 Shell-Thick	INVSLE Combination	3.4802	2.3206	-4.44	-	
0.46	692	136 Shell-Thick	INVSLE Combination	3.4346	2.4902	-4.35	-	
0.54	692	136 Shell-Thick	INVSLE Combination	3.7511	2.6476	-4.35	-	
0.54	692	136 Shell-Thick	INVSLE Combination	3.7938	2.4799	-4.44	-	
1.70	692	136 Shell-Thick	INVSLE Combination	10.2003	5.7491	-3.62		
1.70	692	136 Shell-Thick	INVSLE Combination	9.5961	5.1947	-3.60		
1.69	692	136 Shell-Thick	INVSLE Combination	10.5200	5.5797	-3.60		
1.69	692	136 Shell-Thick	INVSLE Combination	11.1378	6.1251	-3.62		
3.98	692	136 Shell-Thick	INVSLE Combination	4.6983	3.1328	-8.03	-	
3.98	692	136 Shell-Thick	INVSLE Combination	4.6368	3.3618	-7.78	-	
4.20	692	136 Shell-Thick	INVSLE Combination	5.0640	3.5743	-7.78	-	
4.20	692	136 Shell-Thick	INVSLE Combination	5.1217	3.3479	-8.03	-	
1.25	693	137 Shell-Thick	INVSLE Combination	6.1381	3.6655	-1.50		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 234 di 416
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1.25	693	137 Shell-Thick	INVSLE Combination	5.8859	3.5902	-1.49		
1.24	693	137 Shell-Thick	INVSLE Combination	6.1741	3.7199	-1.49		
1.24	693	137 Shell-Thick	INVSLE Combination	6.4270	3.7948	-1.50		
0.54	693	137 Shell-Thick	INVSLE Combination	3.7470	2.4690	-2.48	-	
0.54	693	137 Shell-Thick	INVSLE Combination	3.6906	2.6371	-2.42	-	
0.58	693	137 Shell-Thick	INVSLE Combination	3.8673	2.7253	-2.42	-	
0.58	693	137 Shell-Thick	INVSLE Combination	3.9217	2.5586	-2.48	-	
1.69	693	137 Shell-Thick	INVSLE Combination	11.0326	6.1146	-2.02		
1.69	693	137 Shell-Thick	INVSLE Combination	10.3796	5.5410	-2.01		
1.68	693	137 Shell-Thick	INVSLE Combination	10.8960	5.7558	-2.01		
1.68	693	137 Shell-Thick	INVSLE Combination	11.5551	6.3254	-2.02		
4.19	693	137 Shell-Thick	INVSLE Combination	5.0585	3.3331	-4.48	-	
4.19	693	137 Shell-Thick	INVSLE Combination	4.9824	3.5601	-4.34	-	
4.31	693	137 Shell-Thick	INVSLE Combination	5.2209	3.6792	-4.34	-	
4.31	693	137 Shell-Thick	INVSLE Combination	5.2943	3.4541	-4.48	-	
1.24	694	138 Shell-Thick	INVSLE Combination	6.3971	3.7893	-0.32		
1.24	694	138 Shell-Thick	INVSLE Combination	6.1311	3.7109	-0.32		
1.24	694	138 Shell-Thick	INVSLE Combination	6.1936	3.7373	-0.32		
1.24	694	138 Shell-Thick	INVSLE Combination	6.4584	3.8164	-0.32		
0.58	694	138 Shell-Thick	INVSLE Combination	3.9000	2.5533	-0.53	-	
0.58	694	138 Shell-Thick	INVSLE Combination	3.8381	2.7205	-0.52	-	
0.59	694	138 Shell-Thick	INVSLE Combination	3.8764	2.7384	-0.52	-	
0.59	694	138 Shell-Thick	INVSLE Combination	3.9372	2.5719	-0.53	-	
1.68	694	138 Shell-Thick	INVSLE Combination	11.5085	6.3193	-0.43		
1.68	694	138 Shell-Thick	INVSLE Combination	10.8247	5.7383	-0.43		
1.67	694	138 Shell-Thick	INVSLE Combination	10.9367	5.7819	-0.43		
1.67	694	138 Shell-Thick	INVSLE Combination	11.6191	6.3639	-0.43		
4.31	694	138 Shell-Thick	INVSLE Combination	5.2650	3.4469	-0.96	-	
4.31	694	138 Shell-Thick	INVSLE Combination	5.1814	3.6726	-0.93	-	
4.34	694	138 Shell-Thick	INVSLE Combination	5.2332	3.6968	-0.93	-	
4.34	694	138 Shell-Thick	INVSLE Combination	5.3152	3.4721	-0.96	-	
1.24	695	139 Shell-Thick	INVSLE Combination	6.4619	3.8163	1.41		
1.24	695	139 Shell-Thick	INVSLE Combination	6.2008	3.7395	1.38		
1.24	695	139 Shell-Thick	INVSLE Combination	6.0381	3.6621	1.38		
1.24	695	139 Shell-Thick	INVSLE Combination	6.2962	3.7408	1.41		
0.59	695	139 Shell-Thick	INVSLE Combination	3.9405	2.5725	0.85	-	
0.59	695	139 Shell-Thick	INVSLE Combination	3.8816	2.7395	0.84	-	
0.57	695	139 Shell-Thick	INVSLE Combination	3.7819	2.6869	0.84	-	
0.57	695	139 Shell-Thick	INVSLE Combination	3.8407	2.5199	0.85	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 235 di 416
1.67	695	139 Shell-Thick	INVSLU Combination	11.6231	6.3624	2.56		
1.67	695	139 Shell-Thick	INVSLU Combination	10.9480	5.7865	2.47		
1.68	695	139 Shell-Thick	INVSLU Combination	10.6563	5.6583	2.47		
1.68	695	139 Shell-Thick	INVSLU Combination	11.3225	6.2400	2.56		
4.34	695	139 Shell-Thick	INVSLU Combination	5.3197	3.4728	1.15	-	
4.34	695	139 Shell-Thick	INVSLU Combination	5.2401	3.6983	1.14	-	
4.27	695	139 Shell-Thick	INVSLU Combination	5.1056	3.6273	1.14	-	
4.27	695	139 Shell-Thick	INVSLU Combination	5.1849	3.4019	1.15	-	
1.24	696	140 Shell-Thick	INVSLE Combination	6.3370	3.7461	3.36		
1.24	696	140 Shell-Thick	INVSLE Combination	6.0905	3.6754	3.29		
1.25	696	140 Shell-Thick	INVSLE Combination	5.7014	3.4947	3.29		
1.25	696	140 Shell-Thick	INVSLE Combination	5.9431	3.5686	3.36		
0.57	696	140 Shell-Thick	INVSLE Combination	3.8699	2.5262	2.03	-	
0.57	696	140 Shell-Thick	INVSLE Combination	3.8195	2.6939	2.02	-	
0.51	696	140 Shell-Thick	INVSLE Combination	3.5809	2.5713	2.02	-	
0.51	696	140 Shell-Thick	INVSLE Combination	3.6322	2.4031	2.03	-	
1.68	696	140 Shell-Thick	INVSLU Combination	11.3870	6.2432	6.09		
1.68	696	140 Shell-Thick	INVSLU Combination	10.7391	5.6846	5.89		
1.69	696	140 Shell-Thick	INVSLU Combination	10.0419	5.3848	5.89		
1.69	696	140 Shell-Thick	INVSLU Combination	10.6735	5.9543	6.09		
4.28	696	140 Shell-Thick	INVSLU Combination	5.2244	3.4104	2.74	-	
4.28	696	140 Shell-Thick	INVSLU Combination	5.1563	3.6368	2.72	-	
4.11	696	140 Shell-Thick	INVSLU Combination	4.8343	3.4712	2.72	-	
4.11	696	140 Shell-Thick	INVSLU Combination	4.9034	3.2442	2.74	-	
1.25	697	141 Shell-Thick	INVSLE Combination	6.0132	3.5785	5.33		
1.25	697	141 Shell-Thick	INVSLE Combination	5.7989	3.5182	5.22		
1.26	697	141 Shell-Thick	INVSLE Combination	5.1810	3.2377	5.22		
1.26	697	141 Shell-Thick	INVSLE Combination	5.3883	3.3026	5.33		
0.51	697	141 Shell-Thick	INVSLE Combination	3.6834	2.4148	3.22	-	
0.51	697	141 Shell-Thick	INVSLE Combination	3.6491	2.5836	3.21	-	
0.42	697	141 Shell-Thick	INVSLE Combination	3.2699	2.3931	3.21	-	
0.42	697	141 Shell-Thick	INVSLE Combination	3.3057	2.2233	3.22	-	
1.69	697	141 Shell-Thick	INVSLU Combination	10.7822	5.9607	9.65		
1.69	697	141 Shell-Thick	INVSLU Combination	10.1994	5.4315	9.35		
1.71	697	141 Shell-Thick	INVSLU Combination	9.0930	4.9665	9.35		
1.71	697	141 Shell-Thick	INVSLU Combination	9.6514	5.5119	9.65		
4.13	697	141 Shell-Thick	INVSLU Combination	4.9726	3.2599	4.35	-	
4.13	697	141 Shell-Thick	INVSLU Combination	4.9263	3.4878	4.33	-	
3.87	697	141 Shell-Thick	INVSLU Combination	4.4144	3.2307	4.33	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 236 di 416
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3.87	697	141 Shell-Thick	INVS LU Combination	4.4627	3.0014	4.35	-
1.27	698	142 Shell-Thick	INVS LE Combination	5.4858	3.3161	7.33	
1.27	698	142 Shell-Thick	INVS LE Combination	5.3121	3.2699	7.20	
1.27	698	142 Shell-Thick	INVS LE Combination	4.4612	2.8917	7.20	
1.27	698	142 Shell-Thick	INVS LE Combination	4.6256	2.9441	7.33	
0.43	698	142 Shell-Thick	INVS LE Combination	3.3756	2.2394	4.44	-
0.43	698	142 Shell-Thick	INVS LE Combination	3.3618	2.4094	4.43	-
0.31	698	142 Shell-Thick	INVS LE Combination	2.8389	2.1536	4.43	-
0.31	698	142 Shell-Thick	INVS LE Combination	2.8548	1.9821	4.44	-
1.71	698	142 Shell-Thick	INVS LU Combination	9.8051	5.5202	13.26	
1.71	698	142 Shell-Thick	INVS LU Combination	9.3043	5.0312	12.86	
1.72	698	142 Shell-Thick	INVS LU Combination	7.7822	4.4027	12.86	
1.72	698	142 Shell-Thick	INVS LU Combination	8.2504	4.9133	13.26	
3.89	698	142 Shell-Thick	INVS LU Combination	4.5571	3.0232	5.99	-
3.89	698	142 Shell-Thick	INVS LU Combination	4.5385	3.2527	5.98	-
3.54	698	142 Shell-Thick	INVS LU Combination	3.8324	2.9074	5.98	-
3.54	698	142 Shell-Thick	INVS LU Combination	3.8540	2.6759	5.99	-
1.28	699	143 Shell-Thick	INVS LE Combination	4.7369	2.9594	9.38	
1.28	699	143 Shell-Thick	INVS LE Combination	4.6186	2.9302	9.22	
1.28	699	143 Shell-Thick	INVS LE Combination	3.5293	2.4624	9.22	
1.28	699	143 Shell-Thick	INVS LE Combination	3.6355	2.4996	9.38	
0.32	699	143 Shell-Thick	INVS LE Combination	2.9353	2.0015	5.68	-
0.32	699	143 Shell-Thick	INVS LE Combination	2.9475	2.1721	5.69	-
0.18	699	143 Shell-Thick	INVS LE Combination	2.2767	1.8559	5.69	-
0.18	699	143 Shell-Thick	INVS LE Combination	2.2672	1.6834	5.68	-
1.72	699	143 Shell-Thick	INVS LU Combination	8.4247	4.9202	16.94	
1.72	699	143 Shell-Thick	INVS LU Combination	8.0392	4.4820	16.46	
1.72	699	143 Shell-Thick	INVS LU Combination	6.0932	3.7040	16.46	
1.72	699	143 Shell-Thick	INVS LU Combination	6.4365	4.1703	16.94	
3.57	699	143 Shell-Thick	INVS LU Combination	3.9627	2.7020	7.67	-
3.57	699	143 Shell-Thick	INVS LU Combination	3.9791	2.9324	7.68	-
3.15	699	143 Shell-Thick	INVS LU Combination	3.0735	2.5055	7.68	-
3.15	699	143 Shell-Thick	INVS LU Combination	3.0607	2.2726	7.67	-
1.28	700	144 Shell-Thick	INVS LE Combination	3.7525	2.5144	11.48	
1.28	700	144 Shell-Thick	INVS LE Combination	3.6943	2.5040	11.31	
1.26	700	144 Shell-Thick	INVS LE Combination	2.3593	1.9514	11.31	
1.26	700	144 Shell-Thick	INVS LE Combination	2.4025	1.9718	11.48	
0.19	700	144 Shell-Thick	INVS LE Combination	2.3504	1.7044	6.97	-
0.19	700	144 Shell-Thick	INVS LE Combination	2.3897	1.8742	6.99	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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02	700	144 Shell-Thick	INVSLE Combination	1.5658	1.5026	6.99	-4.100E-	
02	700	144 Shell-Thick	INVSLE Combination	1.5295	1.3308	6.97	-4.100E-	
1.73	700	144 Shell-Thick	INVSLU Combination	6.6224	4.1726	20.71		
1.73	700	144 Shell-Thick	INVSLU Combination	6.3647	3.7932	20.16		
1.70	700	144 Shell-Thick	INVSLU Combination	3.9836	2.8701	20.16		
1.70	700	144 Shell-Thick	INVSLU Combination	4.1894	3.2840	20.71		
3.19	700	144 Shell-Thick	INVSLU Combination	3.1730	2.3009	9.41	-	
3.19	700	144 Shell-Thick	INVSLU Combination	3.2262	2.5302	9.44	-	
2.71	700	144 Shell-Thick	INVSLU Combination	2.1139	2.0286	9.44	-	
2.71	700	144 Shell-Thick	INVSLU Combination	2.0649	1.7965	9.41	-	
1.27	701	145 Shell-Thick	INVSLE Combination	2.5057	1.9831	13.65		
1.27	701	145 Shell-Thick	INVSLE Combination	2.5163	1.9921	13.49		
1.22	701	145 Shell-Thick	INVSLE Combination	0.9274	1.3681	13.49		
1.22	701	145 Shell-Thick	INVSLE Combination	0.8981	1.3716	13.65		
02	701	145 Shell-Thick	INVSLE Combination	1.6028	1.3512	8.31	-5.140E-	
02	701	145 Shell-Thick	INVSLE Combination	1.6702	1.5177	8.36	-5.140E-	
02	701	145 Shell-Thick	INVSLE Combination	0.6869	1.0993	8.36	9.272E-	
02	701	145 Shell-Thick	INVSLE Combination	0.6227	0.9306	8.31	9.272E-	
1.71	701	145 Shell-Thick	INVSLU Combination	4.3538	3.2767	24.59		
1.71	701	145 Shell-Thick	INVSLU Combination	4.2483	2.9632	23.98		
1.65	701	145 Shell-Thick	INVSLU Combination	1.4198	1.9185	23.98		
1.65	701	145 Shell-Thick	INVSLU Combination	1.4618	2.2742	24.59		
2.75	701	145 Shell-Thick	INVSLU Combination	2.1637	1.8241	11.22	-	
2.75	701	145 Shell-Thick	INVSLU Combination	2.2547	2.0489	11.29	-	
2.22	701	145 Shell-Thick	INVSLU Combination	0.9274	1.4840	11.29	-	
2.22	701	145 Shell-Thick	INVSLU Combination	0.8406	1.2563	11.22	-	
1.23	702	146 Shell-Thick	INVSLE Combination	0.9719	1.3760	15.90		
1.23	702	146 Shell-Thick	INVSLE Combination	1.0498	1.4030	15.75		
1.15	702	146 Shell-Thick	INVSLE Combination	-0.3860	0.7162	15.75		
1.15	702	146 Shell-Thick	INVSLE Combination	-0.4738	0.7042	15.90		
02	702	146 Shell-Thick	INVSLE Combination	0.6730	0.9480	9.70	8.105E-	
02	702	146 Shell-Thick	INVSLE Combination	0.7640	1.1073	9.80	8.105E-	
0.21	702	146 Shell-Thick	INVSLE Combination	-0.8030	0.6506	9.80		
0.21	702	146 Shell-Thick	INVSLE Combination	-0.9034	0.4892	9.70		
1.66	702	146 Shell-Thick	INVSLU Combination	1.5839	2.2520	28.58		
1.66	702	146 Shell-Thick	INVSLU Combination	1.6349	2.0081	27.95		
1.56	702	146 Shell-Thick	INVSLU Combination	-0.5210	0.9768	27.95		
1.56	702	146 Shell-Thick	INVSLU Combination	-0.6396	1.1444	28.58		
2.28	702	146 Shell-Thick	INVSLU Combination	0.9085	1.2798	13.10	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 238 di 416
2.28	702	146 Shell-Thick	INVSLU Combination	1.0314	1.4949	13.22	-	
1.72	702	146 Shell-Thick	INVSLU Combination	-1.6568	0.8506	13.22	-	
1.72	702	146 Shell-Thick	INVSLU Combination	-1.7827	0.6604	13.10	-	
1.16	703	147 Shell-Thick	INVSLE Combination	-0.4641	0.6974	18.23		
1.16	703	147 Shell-Thick	INVSLE Combination	-0.3566	0.7392	18.13		
1.03	703	147 Shell-Thick	INVSLE Combination	-1.6814	0.1650	18.13		
1.03	703	147 Shell-Thick	INVSLE Combination	-1.7859	0.0164	18.23		
0.20	703	147 Shell-Thick	INVSLE Combination	-0.8843	0.5005	11.16		
0.20	703	147 Shell-Thick	INVSLE Combination	-0.7413	0.6471	11.31		
0.29	703	147 Shell-Thick	INVSLE Combination	-2.8689	0.0098	11.31		
0.29	703	147 Shell-Thick	INVSLE Combination	-3.0390	-0.0139	11.16		
1.57	703	147 Shell-Thick	INVSLE Combination	-0.6265	1.1004	32.71		
1.57	703	147 Shell-Thick	INVSLE Combination	-0.4815	1.0118	32.08		
1.39	703	147 Shell-Thick	INVSLE Combination	-2.2699	0.2227	32.08		
1.39	703	147 Shell-Thick	INVSLE Combination	-2.4109	0.0222	32.71		
1.78	703	147 Shell-Thick	INVSLE Combination	-1.7444	0.6756	15.07	-	
1.78	703	147 Shell-Thick	INVSLE Combination	-1.5286	0.8736	15.27	-	
1.23	703	147 Shell-Thick	INVSLE Combination	-5.2996	-0.3078	15.27	-	
1.23	703	147 Shell-Thick	INVSLE Combination	-5.6041	-0.0760	15.07	-	
1.05	704	148 Shell-Thick	INVSLE Combination	-1.8354	0.0181	20.66		
1.05	704	148 Shell-Thick	INVSLE Combination	-1.7255	0.1446	20.61		
0.85	704	148 Shell-Thick	INVSLE Combination	-3.2343	-0.3497	20.61		
0.85	704	148 Shell-Thick	INVSLE Combination	-3.3412	-0.4781	20.66		
0.28	704	148 Shell-Thick	INVSLE Combination	-3.0987	-0.0369	12.69		
0.28	704	148 Shell-Thick	INVSLE Combination	-2.9034	0.0140	12.91		
0.32	704	148 Shell-Thick	INVSLE Combination	-5.3183	-0.7439	12.91		
0.32	704	148 Shell-Thick	INVSLE Combination	-5.5451	-0.7738	12.69		
1.41	704	148 Shell-Thick	INVSLE Combination	-2.4777	0.0244	36.99		
1.41	704	148 Shell-Thick	INVSLE Combination	-2.3294	0.1952	36.38		
1.15	704	148 Shell-Thick	INVSLE Combination	-4.3663	-0.4721	36.38		
1.15	704	148 Shell-Thick	INVSLE Combination	-4.5107	-0.6455	36.99		
1.29	704	148 Shell-Thick	INVSLE Combination	-5.6846	-0.1495	17.13	-	
1.29	704	148 Shell-Thick	INVSLE Combination	-5.3144	-0.2533	17.43	-	
0.76	704	148 Shell-Thick	INVSLE Combination	-9.5841	-1.5508	17.43	-	
0.76	704	148 Shell-Thick	INVSLE Combination	-10.0562	-1.3789	17.13	-	
0.87	705	149 Shell-Thick	INVSLE Combination	-3.4723	-0.4902	23.19		
0.87	705	149 Shell-Thick	INVSLE Combination	-3.3803	-0.3931	23.22		
0.59	705	149 Shell-Thick	INVSLE Combination	-5.0828	-0.8820	23.22		
0.59	705	149 Shell-Thick	INVSLE Combination	-5.1720	-0.9809	23.19		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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0.31	705	149 Shell-Thick	INVSLE Combination	-5.7148	-0.8187	14.29		
0.31	705	149 Shell-Thick	INVSLE Combination	-5.4868	-0.7667	14.60		
0.28	705	149 Shell-Thick	INVSLE Combination	-8.2018	-1.5261	14.60		
0.28	705	149 Shell-Thick	INVSLE Combination	-8.4666	-1.5535	14.29		
1.17	705	149 Shell-Thick	INVSLE Combination	-4.6876	-0.6618	41.42		
1.17	705	149 Shell-Thick	INVSLE Combination	-4.5634	-0.5307	40.88		
0.80	705	149 Shell-Thick	INVSLE Combination	-6.8618	-1.1907	40.88		
0.80	705	149 Shell-Thick	INVSLE Combination	-6.9822	-1.3242	41.42		
0.83	705	149 Shell-Thick	INVSLE Combination	-10.3052	-1.4910	19.29	-	
0.83	705	149 Shell-Thick	INVSLE Combination	-9.7988	-1.5314	19.71	-	
0.35	705	149 Shell-Thick	INVSLE Combination	-14.5862	-2.8446	19.71	-	
0.35	705	149 Shell-Thick	INVSLE Combination	-15.2103	-2.7257	19.29	-	
0.62	706	150 Shell-Thick	INVSLE Combination	-5.4982	-1.0227	26.50		
0.62	706	150 Shell-Thick	INVSLE Combination	-5.4771	-0.9843	26.68		
02	706	150 Shell-Thick	INVSLE Combination	-8.4131	-1.6636	26.68	3.025E-	
02	706	150 Shell-Thick	INVSLE Combination	-8.4324	-1.7055	26.50	3.025E-	
0.27	706	150 Shell-Thick	INVSLE Combination	-8.9102	-1.6550	16.38		
0.27	706	150 Shell-Thick	INVSLE Combination	-8.6827	-1.6095	16.87		
02	706	150 Shell-Thick	INVSLE Combination	-13.3662	-2.7010	16.87	-1.984E-	
02	706	150 Shell-Thick	INVSLE Combination	-13.6156	-2.6953	16.38	-1.984E-	
0.83	706	150 Shell-Thick	INVSLE Combination	-7.4226	-1.3806	47.22		
0.83	706	150 Shell-Thick	INVSLE Combination	-7.3940	-1.3288	46.77		
0.13	706	150 Shell-Thick	INVSLE Combination	-11.3576	-2.2459	46.77		
0.13	706	150 Shell-Thick	INVSLE Combination	-11.3837	-2.3024	47.22		
0.45	706	150 Shell-Thick	INVSLE Combination	-15.8942	-2.9495	22.12	-	
0.45	706	150 Shell-Thick	INVSLE Combination	-15.2445	-2.8893	22.77	-	
02	706	150 Shell-Thick	INVSLE Combination	-23.5049	-4.8246	22.77	-2.678E-	
02	706	150 Shell-Thick	INVSLE Combination	-24.2252	-4.7215	22.12	-2.678E-	
02	716	151 Shell-Thick	INVSLE Combination	-8.5418	-1.7050	-17.41	5.083E-	
02	716	151 Shell-Thick	INVSLE Combination	-8.4131	-1.6860	-17.77	5.083E-	
0.32	716	151 Shell-Thick	INVSLE Combination	-6.3447	-1.2173	-17.77		
0.32	716	151 Shell-Thick	INVSLE Combination	-6.4660	-1.2415	-17.41		
03	716	151 Shell-Thick	INVSLE Combination	-13.5045	-2.6531	-27.52	3.635E-	
03	716	151 Shell-Thick	INVSLE Combination	-13.0795	-2.6637	-27.55	3.635E-	
02	716	151 Shell-Thick	INVSLE Combination	-9.8645	-1.9278	-27.55	7.238E-	
02	716	151 Shell-Thick	INVSLE Combination	-10.2331	-1.9549	-27.52	7.238E-	
0.15	716	151 Shell-Thick	INVSLE Combination	-11.5315	-2.3018	-23.51		
0.15	716	151 Shell-Thick	INVSLE Combination	-11.3577	-2.2761	-23.99		
0.43	716	151 Shell-Thick	INVSLE Combination	-8.5654	-1.6433	-23.99		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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0.43	716	151 Shell-Thick	INVSLE Combination	-8.7291	-1.6760	-23.51		
03	716	151 Shell-Thick	INVSLE Combination	-23.6628	-4.5938	-48.22	4.907E-	
03	716	151 Shell-Thick	INVSLE Combination	-22.6314	-4.6651	-47.56	4.907E-	
0.43	716	151 Shell-Thick	INVSLE Combination	-17.0694	-3.3821	-47.56	-	
0.43	716	151 Shell-Thick	INVSLE Combination	-17.9444	-3.4153	-48.22	-	
0.31	717	152 Shell-Thick	INVSLE Combination	-6.1646	-1.1922	-15.58		
0.31	717	152 Shell-Thick	INVSLE Combination	-6.0071	-1.1387	-15.81		
0.52	717	152 Shell-Thick	INVSLE Combination	-4.1611	-0.6298	-15.81		
0.52	717	152 Shell-Thick	INVSLE Combination	-4.3135	-0.6869	-15.58		
02	717	152 Shell-Thick	INVSLE Combination	-9.8469	-1.8577	-24.72	9.542E-	
02	717	152 Shell-Thick	INVSLE Combination	-9.4580	-1.8664	-24.62	9.542E-	
02	717	152 Shell-Thick	INVSLE Combination	-6.5763	-1.0854	-24.62	1.251E-	
02	717	152 Shell-Thick	INVSLE Combination	-6.9176	-1.1086	-24.72	1.251E-	
0.41	717	152 Shell-Thick	INVSLE Combination	-8.3222	-1.6095	-21.03		
0.41	717	152 Shell-Thick	INVSLE Combination	-8.1096	-1.5373	-21.35		
0.70	717	152 Shell-Thick	INVSLE Combination	-5.6175	-0.8502	-21.35		
0.70	717	152 Shell-Thick	INVSLE Combination	-5.8232	-0.9273	-21.03		
0.34	717	152 Shell-Thick	INVSLE Combination	-17.3843	-3.2199	-43.43	-	
0.34	717	152 Shell-Thick	INVSLE Combination	-16.5217	-3.3559	-42.65	-	
1.02	717	152 Shell-Thick	INVSLE Combination	-11.5202	-2.0181	-42.65	-	
1.02	717	152 Shell-Thick	INVSLE Combination	-12.2481	-1.9720	-43.43	-	
0.51	718	153 Shell-Thick	INVSLE Combination	-4.1471	-0.6623	-13.84		
0.51	718	153 Shell-Thick	INVSLE Combination	-3.9916	-0.5871	-13.98		
0.63	718	153 Shell-Thick	INVSLE Combination	-2.3555	-0.0623	-13.98		
0.63	718	153 Shell-Thick	INVSLE Combination	-2.5078	-0.1397	-13.84		
02	718	153 Shell-Thick	INVSLE Combination	-6.7120	-1.0482	-22.04	3.456E-	
02	718	153 Shell-Thick	INVSLE Combination	-6.3913	-1.0678	-21.85	3.456E-	
0.13	718	153 Shell-Thick	INVSLE Combination	-3.8266	-0.2775	-21.85	-	
0.13	718	153 Shell-Thick	INVSLE Combination	-4.1071	-0.2847	-22.04	-	
0.68	718	153 Shell-Thick	INVSLE Combination	-5.5985	-0.8942	-18.68		
0.68	718	153 Shell-Thick	INVSLE Combination	-5.3887	-0.7926	-18.87		
0.85	718	153 Shell-Thick	INVSLE Combination	-3.1799	-0.0841	-18.87		
0.85	718	153 Shell-Thick	INVSLE Combination	-3.3855	-0.1886	-18.68		
0.93	718	153 Shell-Thick	INVSLE Combination	-11.9622	-1.8379	-38.83	-	
0.93	718	153 Shell-Thick	INVSLE Combination	-11.3031	-2.0516	-37.98	-	
1.67	718	153 Shell-Thick	INVSLE Combination	-6.8378	-0.7179	-37.98	-	
1.67	718	153 Shell-Thick	INVSLE Combination	-7.3808	-0.5816	-38.83	-	
0.62	719	154 Shell-Thick	INVSLE Combination	-2.4451	-0.1340	-12.19		
0.62	719	154 Shell-Thick	INVSLE Combination	-2.3132	-0.0470	-12.25		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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0.68	719	154 Shell-Thick	INVSLE Combination	-0.8745	0.4846	-12.25		
0.68	719	154 Shell-Thick	INVSLE Combination	-1.0054	0.5023	-12.19		
0.11	719	154 Shell-Thick	INVSLE Combination	-4.0389	-0.2527	-19.49	-	
0.11	719	154 Shell-Thick	INVSLE Combination	-3.8078	-0.2922	-19.24	-	
0.32	719	154 Shell-Thick	INVSLE Combination	-1.5435	0.4740	-19.24	-	
0.32	719	154 Shell-Thick	INVSLE Combination	-1.7419	0.3863	-19.49	-	
0.84	719	154 Shell-Thick	INVSLE Combination	-3.3008	-0.1809	-16.45		
0.84	719	154 Shell-Thick	INVSLE Combination	-3.1228	-0.0635	-16.54		
0.91	719	154 Shell-Thick	INVSLE Combination	-1.1806	0.6558	-16.54		
0.91	719	154 Shell-Thick	INVSLE Combination	-1.3572	0.7397	-16.45		
1.59	719	154 Shell-Thick	INVSLE Combination	-7.3015	-0.4956	-34.43	-	
1.59	719	154 Shell-Thick	INVSLE Combination	-6.8673	-0.7939	-33.55	-	
2.36	719	154 Shell-Thick	INVSLE Combination	-2.9129	0.5062	-33.55	-	
2.36	719	154 Shell-Thick	INVSLE Combination	-3.2497	0.5216	-34.43	-	
0.67	720	155 Shell-Thick	INVSLE Combination	-1.0192	0.5132	-10.63		
0.67	720	155 Shell-Thick	INVSLE Combination	-0.9227	0.4695	-10.64		
0.68	720	155 Shell-Thick	INVSLE Combination	0.3377	1.1836	-10.64		
0.68	720	155 Shell-Thick	INVSLE Combination	0.2328	1.2317	-10.63		
0.30	720	155 Shell-Thick	INVSLE Combination	-1.7754	0.3785	-17.05	-	
0.30	720	155 Shell-Thick	INVSLE Combination	-1.6411	0.4475	-16.77	-	
0.55	720	155 Shell-Thick	INVSLE Combination	0.3298	0.9686	-16.77	-	
0.55	720	155 Shell-Thick	INVSLE Combination	0.2298	0.8779	-17.05	-	
0.91	720	155 Shell-Thick	INVSLE Combination	-1.3759	0.7889	-14.35		
0.91	720	155 Shell-Thick	INVSLE Combination	-1.2456	0.6338	-14.36		
0.92	720	155 Shell-Thick	INVSLE Combination	0.4570	1.6301	-14.36		
0.92	720	155 Shell-Thick	INVSLE Combination	0.3143	1.9558	-14.35		
2.29	720	155 Shell-Thick	INVSLE Combination	-3.3234	0.5110	-30.21	-	
2.29	720	155 Shell-Thick	INVSLE Combination	-3.1117	0.4024	-29.34	-	
3.05	720	155 Shell-Thick	INVSLE Combination	0.3537	1.3076	-29.34	-	
3.05	720	155 Shell-Thick	INVSLE Combination	0.2238	1.1852	-30.21	-	
0.67	721	156 Shell-Thick	INVSLE Combination	0.1674	1.2277	-9.15		
0.67	721	156 Shell-Thick	INVSLE Combination	0.2213	1.1325	-9.12		
0.65	721	156 Shell-Thick	INVSLE Combination	1.8703	1.8136	-9.12		
0.65	721	156 Shell-Thick	INVSLE Combination	1.8576	1.8951	-9.15		
0.53	721	156 Shell-Thick	INVSLE Combination	0.1296	0.8610	-14.73	-	
0.53	721	156 Shell-Thick	INVSLE Combination	0.1628	0.9506	-14.44	-	
0.79	721	156 Shell-Thick	INVSLE Combination	1.2982	1.4146	-14.44	-	
0.79	721	156 Shell-Thick	INVSLE Combination	1.2424	1.3263	-14.73	-	
0.91	721	156 Shell-Thick	INVSLE Combination	0.2260	1.9781	-12.35		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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0.91	721	156 Shell-Thick	INVS LU Combination	0.2987	1.5562	-12.31		
0.87	721	156 Shell-Thick	INVS LU Combination	3.0413	2.6304	-12.31		
0.87	721	156 Shell-Thick	INVS LU Combination	3.1168	3.0595	-12.35		
2.99	721	156 Shell-Thick	INVS LU Combination	0.0523	1.1624	-26.16	-	
2.99	721	156 Shell-Thick	INVS LU Combination	0.0431	1.2834	-25.32	-	
3.72	721	156 Shell-Thick	INVS LU Combination	1.7525	1.9097	-25.32	-	
3.72	721	156 Shell-Thick	INVS LU Combination	1.6772	1.7905	-26.16	-	
0.65	722	157 Shell-Thick	INVS LE Combination	1.7153	1.8814	-7.75		
0.65	722	157 Shell-Thick	INVS LE Combination	1.6549	1.7558	-7.69		
0.60	722	157 Shell-Thick	INVS LE Combination	3.1032	2.3637	-7.69		
0.60	722	157 Shell-Thick	INVS LE Combination	3.1794	2.4788	-7.75		
0.77	722	157 Shell-Thick	INVS LE Combination	1.1450	1.3042	-12.51	-	
0.77	722	157 Shell-Thick	INVS LE Combination	1.1559	1.3887	-12.22	-	
1.02	722	157 Shell-Thick	INVS LE Combination	2.0664	1.8055	-12.22	-	
1.02	722	157 Shell-Thick	INVS LE Combination	2.0528	1.7228	-12.51	-	
0.87	722	157 Shell-Thick	INVS LU Combination	2.8826	3.0630	-10.46		
0.87	722	157 Shell-Thick	INVS LU Combination	2.6764	2.5071	-10.39		
0.81	722	157 Shell-Thick	INVS LU Combination	5.2253	3.5062	-10.39		
0.81	722	157 Shell-Thick	INVS LU Combination	5.4854	4.0263	-10.46		
3.67	722	157 Shell-Thick	INVS LU Combination	1.5458	1.7607	-22.25	-	
3.67	722	157 Shell-Thick	INVS LU Combination	1.5605	1.8748	-21.49	-	
4.34	722	157 Shell-Thick	INVS LU Combination	2.7897	2.4375	-21.49	-	
4.34	722	157 Shell-Thick	INVS LU Combination	2.7713	2.3258	-22.25	-	
0.60	723	158 Shell-Thick	INVS LE Combination	3.0215	2.4599	-6.41		
0.60	723	158 Shell-Thick	INVS LE Combination	2.8725	2.3049	-6.34		
0.54	723	158 Shell-Thick	INVS LE Combination	4.0726	2.8317	-6.34		
0.54	723	158 Shell-Thick	INVS LE Combination	4.2331	2.9791	-6.41		
1.01	723	158 Shell-Thick	INVS LE Combination	1.9419	1.6988	-10.37	-	
1.01	723	158 Shell-Thick	INVS LE Combination	1.9105	1.7763	-10.11	-	
1.24	723	158 Shell-Thick	INVS LE Combination	2.6629	2.1381	-10.11	-	
1.24	723	158 Shell-Thick	INVS LE Combination	2.6910	2.0628	-10.37	-	
0.80	723	158 Shell-Thick	INVS LU Combination	5.2314	4.0179	-8.65		
0.80	723	158 Shell-Thick	INVS LU Combination	4.8417	3.3871	-8.56		
0.73	723	158 Shell-Thick	INVS LU Combination	6.9583	4.2515	-8.56		
0.73	723	158 Shell-Thick	INVS LU Combination	7.3897	4.8547	-8.65		
4.29	723	158 Shell-Thick	INVS LU Combination	2.6216	2.2933	-18.49	-	
4.29	723	158 Shell-Thick	INVS LU Combination	2.5792	2.3979	-17.81	-	
4.89	723	158 Shell-Thick	INVS LU Combination	3.5949	2.8864	-17.81	-	
4.89	723	158 Shell-Thick	INVS LU Combination	3.6329	2.7848	-18.49	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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0.54	724	159 Shell-Thick	INVSLE Combination	4.0747	2.9583	-5.12		
0.54	724	159 Shell-Thick	INVSLE Combination	3.8525	2.7768	-5.06		
0.48	724	159 Shell-Thick	INVSLE Combination	4.8133	3.2114	-5.06		
0.48	724	159 Shell-Thick	INVSLE Combination	5.0438	3.3875	-5.12		
1.23	724	159 Shell-Thick	INVSLE Combination	2.5793	2.0393	-8.31	-	
1.23	724	159 Shell-Thick	INVSLE Combination	2.5115	2.1090	-8.08	-	
1.43	724	159 Shell-Thick	INVSLE Combination	3.1124	2.4088	-8.08	-	
1.43	724	159 Shell-Thick	INVSLE Combination	3.1770	2.3413	-8.31	-	
0.73	724	159 Shell-Thick	INVSLE Combination	7.1357	4.8396	-6.91		
0.73	724	159 Shell-Thick	INVSLE Combination	6.5975	4.1437	-6.83		
0.65	724	159 Shell-Thick	INVSLE Combination	8.2950	4.8543	-6.83		
0.65	724	159 Shell-Thick	INVSLE Combination	8.8649	5.5292	-6.91		
4.85	724	159 Shell-Thick	INVSLE Combination	3.4821	2.7530	-14.83	-	
4.85	724	159 Shell-Thick	INVSLE Combination	3.3905	2.8472	-14.26	-	
5.35	724	159 Shell-Thick	INVSLE Combination	4.2018	3.2518	-14.26	-	
5.35	724	159 Shell-Thick	INVSLE Combination	4.2890	3.1607	-14.83	-	
0.48	725	160 Shell-Thick	INVSLE Combination	4.9037	3.3679	-3.88		
0.48	725	160 Shell-Thick	INVSLE Combination	4.6180	3.1640	-3.82		
0.43	725	160 Shell-Thick	INVSLE Combination	5.3473	3.5024	-3.82		
0.43	725	160 Shell-Thick	INVSLE Combination	5.6381	3.7029	-3.88		
1.42	725	160 Shell-Thick	INVSLE Combination	3.0770	2.3203	-6.31	-	
1.42	725	160 Shell-Thick	INVSLE Combination	2.9776	2.3827	-6.12	-	
1.59	725	160 Shell-Thick	INVSLE Combination	3.4328	2.6162	-6.12	-	
1.59	725	160 Shell-Thick	INVSLE Combination	3.5291	2.5559	-6.31	-	
0.65	725	160 Shell-Thick	INVSLE Combination	8.6429	5.5122	-5.24		
0.65	725	160 Shell-Thick	INVSLE Combination	7.9759	4.7631	-5.16		
0.58	725	160 Shell-Thick	INVSLE Combination	9.2661	5.3163	-5.16		
0.58	725	160 Shell-Thick	INVSLE Combination	9.9550	6.0509	-5.24		
5.32	725	160 Shell-Thick	INVSLE Combination	4.1540	3.1324	-11.27	-	
5.32	725	160 Shell-Thick	INVSLE Combination	4.0198	3.2167	-10.82	-	
5.71	725	160 Shell-Thick	INVSLE Combination	4.6343	3.5319	-10.82	-	
5.71	725	160 Shell-Thick	INVSLE Combination	4.7643	3.4505	-11.27	-	
0.43	726	161 Shell-Thick	INVSLE Combination	5.5238	3.6864	-2.67		
0.43	726	161 Shell-Thick	INVSLE Combination	5.1938	3.4653	-2.63		
0.39	726	161 Shell-Thick	INVSLE Combination	5.6969	3.7017	-2.63		
0.39	726	161 Shell-Thick	INVSLE Combination	6.0297	3.9209	-2.67		
1.58	726	161 Shell-Thick	INVSLE Combination	3.4479	2.5391	-4.35	-	
1.58	726	161 Shell-Thick	INVSLE Combination	3.3259	2.5954	-4.22	-	
1.70	726	161 Shell-Thick	INVSLE Combination	3.6395	2.7588	-4.22	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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1.70	726	161 Shell-Thick	INVSLE Combination	3.7590	2.7043	-4.35	-
0.58	726	161 Shell-Thick	INVSLE Combination	9.7729	6.0349	-3.61	-
0.58	726	161 Shell-Thick	INVSLE Combination	9.0172	5.2461	-3.55	-
0.53	726	161 Shell-Thick	INVSLE Combination	9.9082	5.6315	-3.55	-
0.53	726	161 Shell-Thick	INVSLE Combination	10.6776	6.4113	-3.61	-
5.69	726	161 Shell-Thick	INVSLE Combination	4.6547	3.4278	-7.78	-
5.69	726	161 Shell-Thick	INVSLE Combination	4.4899	3.5038	-7.46	-
5.97	726	161 Shell-Thick	INVSLE Combination	4.9133	3.7244	-7.46	-
5.97	726	161 Shell-Thick	INVSLE Combination	5.0746	3.6509	-7.78	-
0.39	727	162 Shell-Thick	INVSLE Combination	5.9533	3.9092	-1.49	-
0.39	727	162 Shell-Thick	INVSLE Combination	5.5911	3.6769	-1.47	-
0.37	727	162 Shell-Thick	INVSLE Combination	5.8722	3.8095	-1.47	-
0.37	727	162 Shell-Thick	INVSLE Combination	6.2349	4.0414	-1.49	-
1.69	727	162 Shell-Thick	INVSLE Combination	3.7041	2.6928	-2.43	-
1.69	727	162 Shell-Thick	INVSLE Combination	3.5663	2.7447	-2.35	-
1.76	727	162 Shell-Thick	INVSLE Combination	3.7413	2.8364	-2.35	-
1.76	727	162 Shell-Thick	INVSLE Combination	3.8771	2.7858	-2.43	-
0.53	727	162 Shell-Thick	INVSLE Combination	10.5573	6.3992	-2.01	-
0.53	727	162 Shell-Thick	INVSLE Combination	9.7359	5.5851	-1.98	-
0.50	727	162 Shell-Thick	INVSLE Combination	10.2339	5.8014	-1.98	-
0.50	727	162 Shell-Thick	INVSLE Combination	11.0611	6.6117	-2.01	-
5.96	727	162 Shell-Thick	INVSLE Combination	5.0005	3.6353	-4.34	-
5.96	727	162 Shell-Thick	INVSLE Combination	4.8145	3.7054	-4.16	-
6.12	727	162 Shell-Thick	INVSLE Combination	5.0508	3.8291	-4.16	-
6.12	727	162 Shell-Thick	INVSLE Combination	5.2341	3.7608	-4.34	-
0.37	728	163 Shell-Thick	INVSLE Combination	6.1975	4.0354	-0.32	-
0.37	728	163 Shell-Thick	INVSLE Combination	5.8237	3.7984	-0.32	-
0.37	728	163 Shell-Thick	INVSLE Combination	5.8848	3.8251	-0.32	-
0.37	728	163 Shell-Thick	INVSLE Combination	6.2573	4.0630	-0.32	-
1.76	728	163 Shell-Thick	INVSLE Combination	3.8509	2.7802	-0.52	-
1.76	728	163 Shell-Thick	INVSLE Combination	3.7075	2.8300	-0.51	-
1.77	728	163 Shell-Thick	INVSLE Combination	3.7456	2.8485	-0.51	-
1.77	728	163 Shell-Thick	INVSLE Combination	3.8878	2.7995	-0.52	-
0.50	728	163 Shell-Thick	INVSLE Combination	11.0008	6.6046	-0.43	-
0.50	728	163 Shell-Thick	INVSLE Combination	10.1553	5.7807	-0.43	-
0.49	728	163 Shell-Thick	INVSLE Combination	10.2636	5.8243	-0.43	-
0.49	728	163 Shell-Thick	INVSLE Combination	11.1074	6.6493	-0.43	-
6.11	728	163 Shell-Thick	INVSLE Combination	5.1987	3.7532	-0.93	-
6.11	728	163 Shell-Thick	INVSLE Combination	5.0051	3.8205	-0.89	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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6.15	728	163 Shell-Thick	INVSLU Combination	5.0565	3.8455	-0.89	-	
6.15	728	163 Shell-Thick	INVSLU Combination	5.2486	3.7793	-0.93	-	
0.36	729	164 Shell-Thick	INVSLE Combination	6.2649	4.0631	1.38		
0.36	729	164 Shell-Thick	INVSLE Combination	5.8924	3.8281	1.34		
0.38	729	164 Shell-Thick	INVSLE Combination	5.7342	3.7489	1.34		
0.38	729	164 Shell-Thick	INVSLE Combination	6.1034	3.9860	1.38		
1.77	729	164 Shell-Thick	INVSLE Combination	3.8931	2.8001	0.85	-	
1.77	729	164 Shell-Thick	INVSLE Combination	3.7517	2.8502	0.83	-	
1.74	729	164 Shell-Thick	INVSLE Combination	3.6532	2.7954	0.83	-	
1.74	729	164 Shell-Thick	INVSLE Combination	3.7943	2.7456	0.85	-	
0.49	729	164 Shell-Thick	INVSLU Combination	11.1198	6.6482	2.47		
0.49	729	164 Shell-Thick	INVSLU Combination	10.2743	5.8300	2.37		
0.51	729	164 Shell-Thick	INVSLU Combination	9.9937	5.7006	2.37		
0.51	729	164 Shell-Thick	INVSLU Combination	10.8301	6.5249	2.47		
6.15	729	164 Shell-Thick	INVSLU Combination	5.2557	3.7802	1.14	-	
6.15	729	164 Shell-Thick	INVSLU Combination	5.0648	3.8477	1.12	-	
6.06	729	164 Shell-Thick	INVSLU Combination	4.9318	3.7738	1.12	-	
6.06	729	164 Shell-Thick	INVSLU Combination	5.1223	3.7066	1.14	-	
0.38	730	165 Shell-Thick	INVSLE Combination	6.1513	3.9919	3.29		
0.38	730	165 Shell-Thick	INVSLE Combination	5.8005	3.7658	3.19		
0.41	730	165 Shell-Thick	INVSLE Combination	5.4217	3.5818	3.19		
0.41	730	165 Shell-Thick	INVSLE Combination	5.7672	3.8114	3.29		
1.74	730	165 Shell-Thick	INVSLE Combination	3.8292	2.7524	2.02	-	
1.74	730	165 Shell-Thick	INVSLE Combination	3.6999	2.8050	1.98	-	
1.65	730	165 Shell-Thick	INVSLE Combination	3.4639	2.6777	1.98	-	
1.65	730	165 Shell-Thick	INVSLE Combination	3.5936	2.6248	2.02	-	
0.51	730	165 Shell-Thick	INVSLU Combination	10.9046	6.5292	5.89		
0.51	730	165 Shell-Thick	INVSLU Combination	10.1005	5.7325	5.65		
0.55	730	165 Shell-Thick	INVSLU Combination	9.4292	5.4324	5.65		
0.55	730	165 Shell-Thick	INVSLU Combination	10.2164	6.2404	5.89		
6.07	730	165 Shell-Thick	INVSLU Combination	5.1694	3.7157	2.73	-	
6.07	730	165 Shell-Thick	INVSLU Combination	4.9948	3.7867	2.68	-	
5.86	730	165 Shell-Thick	INVSLU Combination	4.6762	3.6149	2.68	-	
5.86	730	165 Shell-Thick	INVSLU Combination	4.8514	3.5435	2.73	-	
0.41	731	166 Shell-Thick	INVSLE Combination	5.8556	3.8227	5.23		
0.41	731	166 Shell-Thick	INVSLE Combination	5.5391	3.6118	5.07		
0.45	731	166 Shell-Thick	INVSLE Combination	4.9366	3.3243	5.07		
0.45	731	166 Shell-Thick	INVSLE Combination	5.2457	3.5401	5.23		
1.66	731	166 Shell-Thick	INVSLE Combination	3.6567	2.6372	3.21	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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1.66	731	166 Shell-Thick	INVSLE Combination	3.5467	2.6946	3.16	-
1.52	731	166 Shell-Thick	INVSLE Combination	3.1710	2.4962	3.16	-
1.52	731	166 Shell-Thick	INVSLE Combination	3.2820	2.4381	3.21	-
0.55	731	166 Shell-Thick	INVSLU Combination	10.3567	6.2493	9.35	-
0.55	731	166 Shell-Thick	INVSLU Combination	9.6175	5.4892	8.97	-
0.61	731	166 Shell-Thick	INVSLU Combination	8.5508	5.0193	8.97	-
0.61	731	166 Shell-Thick	INVSLU Combination	9.2651	5.7959	9.35	-
5.88	731	166 Shell-Thick	INVSLU Combination	4.9366	3.5602	4.33	-
5.88	731	166 Shell-Thick	INVSLU Combination	4.7880	3.6377	4.27	-
5.55	731	166 Shell-Thick	INVSLU Combination	4.2808	3.3698	4.27	-
5.55	731	166 Shell-Thick	INVSLU Combination	4.4307	3.2915	4.33	-
0.45	732	167 Shell-Thick	INVSLE Combination	5.3641	3.5552	7.20	-
0.45	732	167 Shell-Thick	INVSLE Combination	5.1005	3.3656	6.99	-
0.51	732	167 Shell-Thick	INVSLE Combination	4.2699	2.9795	6.99	-
0.51	732	167 Shell-Thick	INVSLE Combination	4.5232	3.1760	7.20	-
1.53	732	167 Shell-Thick	INVSLE Combination	3.3671	2.4551	4.43	-
1.53	732	167 Shell-Thick	INVSLE Combination	3.2852	2.5190	4.37	-
1.34	732	167 Shell-Thick	INVSLE Combination	2.7664	2.2525	4.37	-
1.34	732	167 Shell-Thick	INVSLE Combination	2.8496	2.1877	4.43	-
0.61	732	167 Shell-Thick	INVSLU Combination	9.4519	5.8071	12.87	-
0.61	732	167 Shell-Thick	INVSLU Combination	8.8164	5.0986	12.36	-
0.68	732	167 Shell-Thick	INVSLU Combination	7.3477	4.4676	12.36	-
0.68	732	167 Shell-Thick	INVSLU Combination	7.9490	5.1988	12.87	-
5.58	732	167 Shell-Thick	INVSLU Combination	4.5456	3.3144	5.98	-
5.58	732	167 Shell-Thick	INVSLU Combination	4.4350	3.4007	5.90	-
5.13	732	167 Shell-Thick	INVSLU Combination	3.7346	3.0409	5.90	-
5.13	732	167 Shell-Thick	INVSLU Combination	3.8469	2.9535	5.98	-
0.51	733	168 Shell-Thick	INVSLE Combination	4.6654	3.1932	9.23	-
0.51	733	168 Shell-Thick	INVSLE Combination	4.4656	3.0298	8.98	-
0.56	733	168 Shell-Thick	INVSLE Combination	3.4003	2.5484	8.98	-
0.56	733	168 Shell-Thick	INVSLE Combination	3.5867	2.7206	9.23	-
1.36	733	168 Shell-Thick	INVSLE Combination	2.9504	2.2081	5.69	-
1.36	733	168 Shell-Thick	INVSLE Combination	2.9023	2.2795	5.62	-
1.14	733	168 Shell-Thick	INVSLE Combination	2.2355	1.9484	5.62	-
1.14	733	168 Shell-Thick	INVSLE Combination	2.2850	1.8761	5.69	-
0.68	733	168 Shell-Thick	INVSLU Combination	8.1758	5.2096	16.47	-
0.68	733	168 Shell-Thick	INVSLU Combination	7.6656	4.5657	15.84	-
0.76	733	168 Shell-Thick	INVSLU Combination	5.7846	3.7765	15.84	-
0.76	733	168 Shell-Thick	INVSLU Combination	6.2512	4.4493	16.47	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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5.17	733	168 Shell-Thick	INVSLU Combination	3.9831	2.9809	7.68	-	
5.17	733	168 Shell-Thick	INVSLU Combination	3.9181	3.0773	7.59	-	
4.62	733	168 Shell-Thick	INVSLU Combination	3.0179	2.6304	7.59	-	
4.62	733	168 Shell-Thick	INVSLU Combination	3.0847	2.5327	7.68	-	
0.56	734	169 Shell-Thick	INVSLE Combination	3.7359	2.7373	11.32		
0.56	734	169 Shell-Thick	INVSLE Combination	3.6150	2.6044	11.04		
0.62	734	169 Shell-Thick	INVSLE Combination	2.3071	2.0373	11.04		
0.62	734	169 Shell-Thick	INVSLE Combination	2.4105	2.1817	11.32		
1.15	734	169 Shell-Thick	INVSLE Combination	2.3906	1.8979	7.00	-	
1.15	734	169 Shell-Thick	INVSLE Combination	2.3824	1.9771	6.93	-	
0.91	734	169 Shell-Thick	INVSLE Combination	1.5615	1.5876	6.93	-	
0.91	734	169 Shell-Thick	INVSLE Combination	1.5707	1.5077	7.00	-	
0.76	734	169 Shell-Thick	INVSLU Combination	6.4896	4.4556	20.17		
0.76	734	169 Shell-Thick	INVSLU Combination	6.1381	3.8886	19.44		
0.84	734	169 Shell-Thick	INVSLU Combination	3.8332	2.9578	19.44		
0.84	734	169 Shell-Thick	INVSLU Combination	4.1294	3.5614	20.17		
4.67	734	169 Shell-Thick	INVSLU Combination	3.2273	2.5622	9.45	-	
4.67	734	169 Shell-Thick	INVSLU Combination	3.2163	2.6691	9.36	-	
4.04	734	169 Shell-Thick	INVSLU Combination	2.1081	2.1433	9.36	-	
4.04	734	169 Shell-Thick	INVSLU Combination	2.1205	2.0354	9.45	-	
0.62	735	170 Shell-Thick	INVSLE Combination	2.5529	2.1948	13.49		
0.62	735	170 Shell-Thick	INVSLE Combination	2.5178	2.0948	13.20		
0.66	735	170 Shell-Thick	INVSLE Combination	0.9572	1.4489	13.20		
0.66	735	170 Shell-Thick	INVSLE Combination	0.9704	1.5634	13.49		
0.93	735	170 Shell-Thick	INVSLE Combination	1.6695	1.5287	8.36	-	
0.93	735	170 Shell-Thick	INVSLE Combination	1.7033	1.6147	8.32	-	
0.67	735	170 Shell-Thick	INVSLE Combination	0.7209	1.1736	8.32	-	
0.67	735	170 Shell-Thick	INVSLE Combination	0.6875	1.0874	8.36	-	
0.84	735	170 Shell-Thick	INVSLU Combination	4.3612	3.5583	23.99		
0.84	735	170 Shell-Thick	INVSLU Combination	4.1851	3.0776	23.19		
0.89	735	170 Shell-Thick	INVSLU Combination	1.4408	2.0122	23.19		
0.89	735	170 Shell-Thick	INVSLU Combination	1.5497	2.5376	23.99		
4.09	735	170 Shell-Thick	INVSLU Combination	2.2538	2.0638	11.29	-	
4.09	735	170 Shell-Thick	INVSLU Combination	2.2994	2.1798	11.23	-	
3.39	735	170 Shell-Thick	INVSLU Combination	0.9732	1.5844	11.23	-	
3.39	735	170 Shell-Thick	INVSLU Combination	0.9281	1.4680	11.29	-	
0.66	736	171 Shell-Thick	INVSLE Combination	1.0822	1.5688	15.75		
0.66	736	171 Shell-Thick	INVSLE Combination	1.1409	1.5026	15.46		
0.68	736	171 Shell-Thick	INVSLE Combination	-0.3132	0.7939	15.46		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 248 di 416
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0.68	736	171 Shell-Thick	INVSLE Combination	-0.3906	0.8783	15.75		
0.69	736	171 Shell-Thick	INVSLE Combination	0.7626	1.1047	9.80	-	
0.69	736	171 Shell-Thick	INVSLE Combination	0.8392	1.1951	9.78	-	
0.43	736	171 Shell-Thick	INVSLE Combination	-0.6836	0.7131	9.78	-	
0.43	736	171 Shell-Thick	INVSLE Combination	-0.7698	0.6232	9.80	-	
0.89	736	171 Shell-Thick	INVSLE Combination	1.7363	2.5187	27.95		
0.89	736	171 Shell-Thick	INVSLE Combination	1.7586	2.1320	27.09		
0.91	736	171 Shell-Thick	INVSLE Combination	-0.4229	1.0838	27.09		
0.91	736	171 Shell-Thick	INVSLE Combination	-0.5273	1.4004	27.95		
3.45	736	171 Shell-Thick	INVSLE Combination	1.0295	1.4913	13.23	-	
3.45	736	171 Shell-Thick	INVSLE Combination	1.1329	1.6133	13.20	-	
2.70	736	171 Shell-Thick	INVSLE Combination	-1.4417	0.9593	13.20	-	
2.70	736	171 Shell-Thick	INVSLE Combination	-1.5460	0.8413	13.23	-	
0.68	737	172 Shell-Thick	INVSLE Combination	-0.3573	0.8712	18.12		
0.68	737	172 Shell-Thick	INVSLE Combination	-0.2427	0.8372	17.85		
0.66	737	172 Shell-Thick	INVSLE Combination	-1.5750	0.2127	17.85		
0.66	737	172 Shell-Thick	INVSLE Combination	-1.6918	0.1348	18.12		
0.45	737	172 Shell-Thick	INVSLE Combination	-0.7118	0.6332	11.31	-	
0.45	737	172 Shell-Thick	INVSLE Combination	-0.5601	0.7238	11.34	-	
0.22	737	172 Shell-Thick	INVSLE Combination	-2.6619	0.0786	11.34	-	
0.22	737	172 Shell-Thick	INVSLE Combination	-2.8469	0.1235	11.31	-	
0.92	737	172 Shell-Thick	INVSLE Combination	-0.4823	1.3584	32.07		
0.92	737	172 Shell-Thick	INVSLE Combination	-0.3276	1.1473	31.19		
0.89	737	172 Shell-Thick	INVSLE Combination	-2.1263	0.2871	31.19		
0.89	737	172 Shell-Thick	INVSLE Combination	-2.2840	0.1836	32.07		
2.77	737	172 Shell-Thick	INVSLE Combination	-1.4376	0.8548	15.27	-	
2.77	737	172 Shell-Thick	INVSLE Combination	-1.2100	0.9772	15.30	-	
2.00	737	172 Shell-Thick	INVSLE Combination	-4.8867	-0.1958	15.30	-	
2.00	737	172 Shell-Thick	INVSLE Combination	-5.2114	0.1578	15.27	-	
0.66	738	173 Shell-Thick	INVSLE Combination	-1.7235	0.1221	20.60		
0.66	738	173 Shell-Thick	INVSLE Combination	-1.5800	0.2069	20.38		
0.58	738	173 Shell-Thick	INVSLE Combination	-3.1030	-0.3169	20.38		
0.58	738	173 Shell-Thick	INVSLE Combination	-3.2507	-0.3989	20.60		
0.24	738	173 Shell-Thick	INVSLE Combination	-2.8748	0.1094	12.90	-	
0.24	738	173 Shell-Thick	INVSLE Combination	-2.6349	0.1038	13.00	-	
02	738	173 Shell-Thick	INVSLE Combination	-5.0281	-0.6802	13.00	-4.424E-	
02	738	173 Shell-Thick	INVSLE Combination	-5.3085	-0.6476	12.90	-4.424E-	
0.89	738	173 Shell-Thick	INVSLE Combination	-2.3267	0.1648	36.36		
0.89	738	173 Shell-Thick	INVSLE Combination	-2.1329	0.2793	35.49		

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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0.78	738	173 Shell-Thick	INVSLU Combination	-4.1891	-0.4278	35.49		
0.78	738	173 Shell-Thick	INVSLU Combination	-4.3884	-0.5385	36.36		
2.08	738	173 Shell-Thick	INVSLU Combination	-5.2316	0.0834	17.42	-	
2.08	738	173 Shell-Thick	INVSLU Combination	-4.7945	-0.1071	17.54	-	
1.32	738	173 Shell-Thick	INVSLU Combination	-8.9685	-1.4239	17.54	-	
1.32	738	173 Shell-Thick	INVSLU Combination	-9.5207	-1.1567	17.42	-	
0.59	739	174 Shell-Thick	INVSLE Combination	-3.3729	-0.4168	23.21		
0.59	739	174 Shell-Thick	INVSLE Combination	-3.2175	-0.3463	23.06		
0.43	739	174 Shell-Thick	INVSLE Combination	-4.9431	-0.8645	23.06		
0.43	739	174 Shell-Thick	INVSLE Combination	-5.1047	-0.9308	23.21		
02	739	174 Shell-Thick	INVSLE Combination	-5.4562	-0.6981	14.59	-6.795E-	
02	739	174 Shell-Thick	INVSLE Combination	-5.1437	-0.6824	14.77	-6.795E-	
02	739	174 Shell-Thick	INVSLE Combination	-7.8440	-1.4706	14.77	6.362E-	
02	739	174 Shell-Thick	INVSLE Combination	-8.2044	-1.4543	14.59	6.362E-	
0.79	739	174 Shell-Thick	INVSLU Combination	-4.5535	-0.5627	40.85		
0.79	739	174 Shell-Thick	INVSLU Combination	-4.3436	-0.4676	40.02		
0.58	739	174 Shell-Thick	INVSLU Combination	-6.6732	-1.1671	40.02		
0.58	739	174 Shell-Thick	INVSLU Combination	-6.8913	-1.2566	40.85		
1.41	739	174 Shell-Thick	INVSLU Combination	-9.7205	-1.2739	19.70	-	
1.41	739	174 Shell-Thick	INVSLU Combination	-9.0865	-1.3703	19.94	-	
0.69	739	174 Shell-Thick	INVSLU Combination	-13.7820	-2.7113	19.94	-	
0.69	739	174 Shell-Thick	INVSLU Combination	-14.5493	-2.5260	19.70	-	
0.44	740	175 Shell-Thick	INVSLE Combination	-5.4467	-0.9870	26.65		
0.44	740	175 Shell-Thick	INVSLE Combination	-5.3174	-0.9516	26.63		
02	740	175 Shell-Thick	INVSLE Combination	-8.3152	-1.6642	26.63	5.868E-	
02	740	175 Shell-Thick	INVSLE Combination	-8.4490	-1.6886	26.65	5.868E-	
02	740	175 Shell-Thick	INVSLE Combination	-8.6536	-1.5716	16.83	3.209E-	
02	740	175 Shell-Thick	INVSLE Combination	-8.2811	-1.5306	17.16	3.209E-	
03	740	175 Shell-Thick	INVSLE Combination	-12.9688	-2.6485	17.16	1.481E-	
03	740	175 Shell-Thick	INVSLE Combination	-13.3715	-2.6196	16.83	1.481E-	
0.60	740	175 Shell-Thick	INVSLU Combination	-7.3530	-1.3324	46.76		
0.60	740	175 Shell-Thick	INVSLU Combination	-7.1785	-1.2847	46.01		
0.18	740	175 Shell-Thick	INVSLU Combination	-11.2255	-2.2467	46.01		
0.18	740	175 Shell-Thick	INVSLU Combination	-11.4061	-2.2797	46.76		
0.81	740	175 Shell-Thick	INVSLU Combination	-15.2178	-2.7685	22.72	-	
0.81	740	175 Shell-Thick	INVSLU Combination	-14.3477	-2.7157	23.17	-	
03	740	175 Shell-Thick	INVSLU Combination	-22.4946	-4.6632	23.17	2.000E-	
03	740	175 Shell-Thick	INVSLU Combination	-23.4475	-4.5252	22.72	2.000E-	
02	750	176 Shell-Thick	INVSLE Combination	-8.4299	-1.6627	-17.75	7.840E-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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02	750	176 Shell-Thick	INVSLE Combination	-8.1588	-1.6550	-17.94	7.840E-
0.19	750	176 Shell-Thick	INVSLE Combination	-6.0668	-1.1701	-17.94	
0.19	750	176 Shell-Thick	INVSLE Combination	-6.3180	-1.1912	-17.75	
02	750	176 Shell-Thick	INVSLE Combination	-13.0841	-2.5428	-27.52	2.460E-
02	750	176 Shell-Thick	INVSLE Combination	-12.4706	-2.5682	-27.32	2.460E-
02	750	176 Shell-Thick	INVSLE Combination	-9.2773	-1.8218	-27.32	-9.976E-
02	750	176 Shell-Thick	INVSLE Combination	-9.8191	-1.8444	-27.52	-9.976E-
0.19	750	176 Shell-Thick	INVSLE Combination	-11.3804	-2.2446	-23.97	
0.19	750	176 Shell-Thick	INVSLE Combination	-11.0144	-2.2343	-24.22	
0.26	750	176 Shell-Thick	INVSLE Combination	-8.1901	-1.5797	-24.22	
0.26	750	176 Shell-Thick	INVSLE Combination	-8.5293	-1.6081	-23.97	
02	750	176 Shell-Thick	INVSLE Combination	-22.6109	-4.3442	-47.51	3.321E-
02	750	176 Shell-Thick	INVSLE Combination	-21.2968	-4.4373	-46.51	3.321E-
0.69	750	176 Shell-Thick	INVSLE Combination	-15.8492	-3.1558	-46.51	-
0.69	750	176 Shell-Thick	INVSLE Combination	-16.9855	-3.1813	-47.51	-
0.19	751	177 Shell-Thick	INVSLE Combination	-6.0181	-1.1325	-15.80	
0.19	751	177 Shell-Thick	INVSLE Combination	-5.7629	-1.1081	-15.87	
0.25	751	177 Shell-Thick	INVSLE Combination	-3.9051	-0.5782	-15.87	
0.25	751	177 Shell-Thick	INVSLE Combination	-4.1454	-0.6127	-15.80	
02	751	177 Shell-Thick	INVSLE Combination	-9.4485	-1.7378	-24.60	-6.314E-
02	751	177 Shell-Thick	INVSLE Combination	-8.9312	-1.7850	-24.29	-6.314E-
0.34	751	177 Shell-Thick	INVSLE Combination	-6.0821	-0.9901	-24.29	-
0.34	751	177 Shell-Thick	INVSLE Combination	-6.5395	-0.9829	-24.60	-
0.25	751	177 Shell-Thick	INVSLE Combination	-8.1245	-1.5289	-21.33	
0.25	751	177 Shell-Thick	INVSLE Combination	-7.7799	-1.4959	-21.43	
0.34	751	177 Shell-Thick	INVSLE Combination	-5.2719	-0.7806	-21.43	
0.34	751	177 Shell-Thick	INVSLE Combination	-5.5963	-0.8271	-21.33	
0.58	751	177 Shell-Thick	INVSLE Combination	-16.4704	-2.9768	-42.62	-
0.58	751	177 Shell-Thick	INVSLE Combination	-15.4165	-3.1707	-41.51	-
1.55	751	177 Shell-Thick	INVSLE Combination	-10.5383	-1.8333	-41.51	-
1.55	751	177 Shell-Thick	INVSLE Combination	-11.4402	-1.7407	-42.62	-
0.25	752	178 Shell-Thick	INVSLE Combination	-3.9957	-0.5827	-13.97	
0.25	752	178 Shell-Thick	INVSLE Combination	-3.7830	-0.5538	-13.95	
0.23	752	178 Shell-Thick	INVSLE Combination	-2.1441	-0.0064	-13.95	
0.23	752	178 Shell-Thick	INVSLE Combination	-2.3465	-0.0421	-13.97	
0.31	752	178 Shell-Thick	INVSLE Combination	-6.3672	-0.9178	-21.85	-
0.31	752	178 Shell-Thick	INVSLE Combination	-5.9726	-0.9988	-21.45	-
0.66	752	178 Shell-Thick	INVSLE Combination	-3.4473	-0.1894	-21.45	-
0.66	752	178 Shell-Thick	INVSLE Combination	-3.7933	-0.1407	-21.85	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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0.34	752	178 Shell-Thick	INVSLU Combination	-5.3942	-0.7866	-18.86		
0.34	752	178 Shell-Thick	INVSLU Combination	-5.1071	-0.7477	-18.83		
0.31	752	178 Shell-Thick	INVSLU Combination	-2.8945	-0.0086	-18.83		
0.31	752	178 Shell-Thick	INVSLU Combination	-3.1678	-0.0568	-18.86		
1.45	752	178 Shell-Thick	INVSLU Combination	-11.2215	-1.6037	-37.97	-	
1.45	752	178 Shell-Thick	INVSLU Combination	-10.4545	-1.9098	-36.80	-	
2.47	752	178 Shell-Thick	INVSLU Combination	-6.1149	-0.5639	-36.80	-	
2.47	752	178 Shell-Thick	INVSLU Combination	-6.7548	-0.3424	-37.97	-	
0.23	753	179 Shell-Thick	INVSLE Combination	-2.3101	-0.0336	-12.25		
0.23	753	179 Shell-Thick	INVSLE Combination	-2.1545	-0.0096	-12.16		
0.16	753	179 Shell-Thick	INVSLE Combination	-0.7199	0.5594	-12.16		
0.16	753	179 Shell-Thick	INVSLE Combination	-0.8691	0.6567	-12.25		
0.63	753	179 Shell-Thick	INVSLE Combination	-3.7697	-0.1071	-19.24	-	
0.63	753	179 Shell-Thick	INVSLE Combination	-3.5081	-0.2304	-18.80	-	
1.01	753	179 Shell-Thick	INVSLE Combination	-1.2878	0.5315	-18.80	-	
1.01	753	179 Shell-Thick	INVSLE Combination	-1.5102	0.5032	-19.24	-	
0.31	753	179 Shell-Thick	INVSLE Combination	-3.1187	-0.0454	-16.54		
0.31	753	179 Shell-Thick	INVSLE Combination	-2.9086	-0.0130	-16.42		
0.21	753	179 Shell-Thick	INVSLE Combination	-0.9718	0.7594	-16.42		
0.21	753	179 Shell-Thick	INVSLE Combination	-1.1733	0.9708	-16.54		
2.38	753	179 Shell-Thick	INVSLE Combination	-6.7573	-0.2575	-33.55	-	
2.38	753	179 Shell-Thick	INVSLE Combination	-6.2789	-0.6821	-32.37	-	
3.41	753	179 Shell-Thick	INVSLE Combination	-2.4502	0.6166	-32.37	-	
3.41	753	179 Shell-Thick	INVSLE Combination	-2.8226	0.6793	-33.55	-	
0.16	754	180 Shell-Thick	INVSLE Combination	-0.9130	0.6672	-10.64		
0.16	754	180 Shell-Thick	INVSLE Combination	-0.8221	0.5091	-10.51		
02	754	180 Shell-Thick	INVSLE Combination	0.4682	1.2465	-10.51	4.491E-	
02	754	180 Shell-Thick	INVSLE Combination	0.3735	1.3963	-10.64	4.491E-	
0.99	754	180 Shell-Thick	INVSLE Combination	-1.5904	0.4964	-16.78	-	
0.99	754	180 Shell-Thick	INVSLE Combination	-1.4654	0.4973	-16.31	-	
1.39	754	180 Shell-Thick	INVSLE Combination	0.4219	1.0257	-16.31	-	
1.39	754	180 Shell-Thick	INVSLE Combination	0.3340	1.0111	-16.78	-	
0.21	754	180 Shell-Thick	INVSLE Combination	-1.2326	1.0168	-14.36		
0.21	754	180 Shell-Thick	INVSLE Combination	-1.1098	0.6872	-14.19		
02	754	180 Shell-Thick	INVSLE Combination	0.6390	1.7159	-14.19	6.062E-	
02	754	180 Shell-Thick	INVSLE Combination	0.5101	2.1848	-14.36	6.062E-	
3.33	754	180 Shell-Thick	INVSLE Combination	-2.9771	0.6701	-29.34	-	
3.33	754	180 Shell-Thick	INVSLE Combination	-2.7823	0.4732	-28.20	-	
4.33	754	180 Shell-Thick	INVSLE Combination	0.5630	1.3847	-28.20	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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4.33	754	180 Shell-Thick	INVSLU Combination	0.4510	1.3649	-29.34	-	
02	755	181 Shell-Thick	INVSLE Combination	0.2366	1.3908	-9.13	4.765E-	
02	755	181 Shell-Thick	INVSLE Combination	0.2629	1.1726	-8.97	4.765E-	
02	755	181 Shell-Thick	INVSLE Combination	1.8835	1.8592	-8.97	-8.612E-	
02	755	181 Shell-Thick	INVSLE Combination	1.9102	2.0619	-9.13	-8.612E-	
1.37	755	181 Shell-Thick	INVSLE Combination	0.2241	0.9941	-14.45	-	
1.37	755	181 Shell-Thick	INVSLE Combination	0.2207	0.9914	-13.99	-	
1.77	755	181 Shell-Thick	INVSLE Combination	1.3284	1.4684	-13.99	-	
1.77	755	181 Shell-Thick	INVSLE Combination	1.3028	1.4708	-14.45	-	
02	755	181 Shell-Thick	INVSLU Combination	0.3194	2.2027	-12.32	6.433E-	
02	755	181 Shell-Thick	INVSLU Combination	0.3549	1.6102	-12.11	6.433E-	
0.12	755	181 Shell-Thick	INVSLU Combination	3.0197	2.6592	-12.11	-	
0.12	755	181 Shell-Thick	INVSLU Combination	3.1536	3.2720	-12.32	-	
4.26	755	181 Shell-Thick	INVSLU Combination	0.1986	1.3421	-25.33	-	
4.26	755	181 Shell-Thick	INVSLU Combination	0.1344	1.3383	-24.25	-	
5.20	755	181 Shell-Thick	INVSLU Combination	1.7933	1.9823	-24.25	-	
5.20	755	181 Shell-Thick	INVSLU Combination	1.7588	1.9855	-25.33	-	
02	756	182 Shell-Thick	INVSLE Combination	1.7247	2.0463	-7.70	-8.334E-	
02	756	182 Shell-Thick	INVSLE Combination	1.6006	1.7812	-7.54	-8.334E-	
0.22	756	182 Shell-Thick	INVSLE Combination	3.0071	2.3941	-7.54	-	
0.22	756	182 Shell-Thick	INVSLE Combination	3.1483	2.6480	-7.70	-	
1.74	756	182 Shell-Thick	INVSLE Combination	1.1757	1.4481	-12.23	-	
1.74	756	182 Shell-Thick	INVSLE Combination	1.1395	1.4279	-11.80	-	
2.12	756	182 Shell-Thick	INVSLE Combination	2.0375	1.8549	-11.80	-	
2.12	756	182 Shell-Thick	INVSLE Combination	2.0726	1.8760	-12.23	-	
0.11	756	182 Shell-Thick	INVSLU Combination	2.8485	3.2708	-10.40	-	
0.11	756	182 Shell-Thick	INVSLU Combination	2.5444	2.5043	-10.18	-	
0.30	756	182 Shell-Thick	INVSLU Combination	4.9918	3.4977	-10.18	-	
0.30	756	182 Shell-Thick	INVSLU Combination	5.3503	4.2282	-10.40	-	
5.14	756	182 Shell-Thick	INVSLU Combination	1.5872	1.9549	-21.50	-	
5.14	756	182 Shell-Thick	INVSLU Combination	1.5383	1.9277	-20.52	-	
6.00	756	182 Shell-Thick	INVSLU Combination	2.7507	2.5041	-20.52	-	
6.00	756	182 Shell-Thick	INVSLU Combination	2.7980	2.5326	-21.50	-	
0.22	757	183 Shell-Thick	INVSLE Combination	2.9487	2.6268	-6.35	-	
0.22	757	183 Shell-Thick	INVSLE Combination	2.7207	2.3180	-6.20	-	
0.35	757	183 Shell-Thick	INVSLE Combination	3.8833	2.8443	-6.20	-	
0.35	757	183 Shell-Thick	INVSLE Combination	4.1235	3.1450	-6.35	-	
2.10	757	183 Shell-Thick	INVSLE Combination	1.9336	1.8509	-10.12	-	
2.10	757	183 Shell-Thick	INVSLE Combination	1.8421	1.8131	-9.73	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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2.43	757	183 Shell-Thick	INVSLE Combination	2.5820	2.1814	-9.73	-
2.43	757	183 Shell-Thick	INVSLE Combination	2.6713	2.2208	-10.12	-
0.30	757	183 Shell-Thick	INVSLE Combination	5.0264	4.2149	-8.57	-
0.30	757	183 Shell-Thick	INVSLE Combination	4.5194	3.3517	-8.37	-
0.48	757	183 Shell-Thick	INVSLE Combination	6.5469	4.2013	-8.37	-
0.48	757	183 Shell-Thick	INVSLE Combination	7.0962	5.0367	-8.57	-
5.94	757	183 Shell-Thick	INVSLE Combination	2.6104	2.4988	-17.82	-
5.94	757	183 Shell-Thick	INVSLE Combination	2.4868	2.4476	-16.96	-
6.69	757	183 Shell-Thick	INVSLE Combination	3.4857	2.9448	-16.96	-
6.69	757	183 Shell-Thick	INVSLE Combination	3.6062	2.9981	-17.82	-
0.35	758	184 Shell-Thick	INVSLE Combination	3.9328	3.1222	-5.06	-
0.35	758	184 Shell-Thick	INVSLE Combination	3.6140	2.7751	-4.93	-
0.47	758	184 Shell-Thick	INVSLE Combination	4.5431	3.2096	-4.93	-
0.47	758	184 Shell-Thick	INVSLE Combination	4.8701	3.5514	-5.06	-
2.42	758	184 Shell-Thick	INVSLE Combination	2.5366	2.1963	-8.09	-
2.42	758	184 Shell-Thick	INVSLE Combination	2.3965	2.1419	-7.76	-
2.71	758	184 Shell-Thick	INVSLE Combination	2.9863	2.4462	-7.76	-
2.71	758	184 Shell-Thick	INVSLE Combination	3.1235	2.5026	-8.09	-
0.48	758	184 Shell-Thick	INVSLE Combination	6.7908	5.0175	-6.84	-
0.48	758	184 Shell-Thick	INVSLE Combination	6.1060	4.0712	-6.65	-
0.64	758	184 Shell-Thick	INVSLE Combination	7.7297	4.7722	-6.65	-
0.64	758	184 Shell-Thick	INVSLE Combination	8.4453	5.6982	-6.84	-
6.65	758	184 Shell-Thick	INVSLE Combination	3.4244	2.9650	-14.28	-
6.65	758	184 Shell-Thick	INVSLE Combination	3.2353	2.8915	-13.56	-
7.28	758	184 Shell-Thick	INVSLE Combination	4.0315	3.3023	-13.56	-
7.28	758	184 Shell-Thick	INVSLE Combination	4.2167	3.3785	-14.28	-
0.47	759	185 Shell-Thick	INVSLE Combination	4.7007	3.5299	-3.83	-
0.47	759	185 Shell-Thick	INVSLE Combination	4.3118	3.1509	-3.72	-
0.57	759	185 Shell-Thick	INVSLE Combination	5.0157	3.4866	-3.72	-
0.57	759	185 Shell-Thick	INVSLE Combination	5.4098	3.8623	-3.83	-
2.69	759	185 Shell-Thick	INVSLE Combination	3.0037	2.4807	-6.13	-
2.69	759	185 Shell-Thick	INVSLE Combination	2.8255	2.4120	-5.87	-
2.92	759	185 Shell-Thick	INVSLE Combination	3.2714	2.6477	-5.87	-
2.92	759	185 Shell-Thick	INVSLE Combination	3.4467	2.7185	-6.13	-
0.63	759	185 Shell-Thick	INVSLE Combination	8.1743	5.6775	-5.17	-
0.63	759	185 Shell-Thick	INVSLE Combination	7.3540	4.6636	-5.02	-
0.77	759	185 Shell-Thick	INVSLE Combination	8.5861	5.2038	-5.02	-
0.77	759	185 Shell-Thick	INVSLE Combination	9.4280	6.2036	-5.17	-
7.24	759	185 Shell-Thick	INVSLE Combination	4.0551	3.3489	-10.83	-

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7.24	759	185 Shell-Thick	INVSLU Combination	3.8145	3.2561	-10.27	-
7.73	759	185 Shell-Thick	INVSLU Combination	4.4164	3.5744	-10.27	-
7.73	759	185 Shell-Thick	INVSLU Combination	4.6531	3.6700	-10.83	-
0.57	760	186 Shell-Thick	INVSLE Combination	5.2770	3.8444	-2.64	-
0.57	760	186 Shell-Thick	INVSLE Combination	4.8329	3.4414	-2.55	-
0.64	760	186 Shell-Thick	INVSLE Combination	5.3182	3.6763	-2.55	-
0.64	760	186 Shell-Thick	INVSLE Combination	5.7647	4.0778	-2.64	-
2.91	760	186 Shell-Thick	INVSLE Combination	3.3520	2.7009	-4.22	-
2.91	760	186 Shell-Thick	INVSLE Combination	3.1444	2.6209	-4.04	-
3.07	760	186 Shell-Thick	INVSLE Combination	3.4513	2.7858	-4.04	-
3.07	760	186 Shell-Thick	INVSLE Combination	3.6562	2.8677	-4.22	-
0.76	760	186 Shell-Thick	INVSLU Combination	9.2173	6.1851	-3.56	-
0.76	760	186 Shell-Thick	INVSLU Combination	8.2892	5.1208	-3.45	-
0.86	760	186 Shell-Thick	INVSLU Combination	9.1396	5.4989	-3.45	-
0.86	760	186 Shell-Thick	INVSLU Combination	10.0805	6.5548	-3.56	-
7.71	760	186 Shell-Thick	INVSLU Combination	4.5252	3.6463	-7.47	-
7.71	760	186 Shell-Thick	INVSLU Combination	4.2450	3.5383	-7.08	-
8.06	760	186 Shell-Thick	INVSLU Combination	4.6592	3.7609	-7.08	-
8.06	760	186 Shell-Thick	INVSLU Combination	4.9359	3.8713	-7.47	-
0.64	761	187 Shell-Thick	INVSLE Combination	5.6734	4.0651	-1.47	-
0.64	761	187 Shell-Thick	INVSLE Combination	5.1966	3.6464	-1.42	-
0.68	761	187 Shell-Thick	INVSLE Combination	5.4675	3.7774	-1.42	-
0.68	761	187 Shell-Thick	INVSLE Combination	5.9447	4.1958	-1.47	-
3.07	761	187 Shell-Thick	INVSLE Combination	3.5916	2.8556	-2.35	-
3.07	761	187 Shell-Thick	INVSLE Combination	3.3663	2.7680	-2.25	-
3.16	761	187 Shell-Thick	INVSLE Combination	3.5374	2.8601	-2.25	-
3.16	761	187 Shell-Thick	INVSLE Combination	3.7608	2.9491	-2.35	-
0.86	761	187 Shell-Thick	INVSLU Combination	9.9349	6.5408	-1.98	-
0.86	761	187 Shell-Thick	INVSLU Combination	8.9431	5.4445	-1.92	-
0.91	761	187 Shell-Thick	INVSLU Combination	9.4182	5.6550	-1.92	-
0.91	761	187 Shell-Thick	INVSLU Combination	10.4153	6.7478	-1.98	-
8.04	761	187 Shell-Thick	INVSLU Combination	4.8486	3.8551	-4.17	-
8.04	761	187 Shell-Thick	INVSLU Combination	4.5445	3.7368	-3.94	-
8.24	761	187 Shell-Thick	INVSLU Combination	4.7755	3.8611	-3.94	-
8.24	761	187 Shell-Thick	INVSLU Combination	5.0770	3.9813	-4.17	-
0.68	762	188 Shell-Thick	INVSLE Combination	5.9037	4.1894	-0.32	-
0.68	762	188 Shell-Thick	INVSLE Combination	5.4098	3.7640	-0.31	-
0.69	762	188 Shell-Thick	INVSLE Combination	5.4689	3.7905	-0.31	-
0.69	762	188 Shell-Thick	INVSLE Combination	5.9613	4.2169	-0.32	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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3.16	762	188 Shell-Thick	INVSLE Combination	3.7312	2.9433	-0.51	-
3.16	762	188 Shell-Thick	INVSLE Combination	3.4977	2.8521	-0.48	-
3.18	762	188 Shell-Thick	INVSLE Combination	3.5350	2.8707	-0.48	-
3.18	762	188 Shell-Thick	INVSLE Combination	3.7673	2.9628	-0.51	-
0.91	762	188 Shell-Thick	INVSLE Combination	10.3506	6.7401	-0.43	-
0.91	762	188 Shell-Thick	INVSLE Combination	9.3239	5.6308	-0.41	-
0.93	762	188 Shell-Thick	INVSLE Combination	9.4275	5.6733	-0.41	-
0.93	762	188 Shell-Thick	INVSLE Combination	10.4522	6.7840	-0.43	-
8.23	762	188 Shell-Thick	INVSLE Combination	5.0372	3.9735	-0.90	-
8.23	762	188 Shell-Thick	INVSLE Combination	4.7219	3.8503	-0.85	-
8.28	762	188 Shell-Thick	INVSLE Combination	4.7723	3.8754	-0.85	-
8.28	762	188 Shell-Thick	INVSLE Combination	5.0859	3.9998	-0.90	-
0.69	763	189 Shell-Thick	INVSLE Combination	5.9691	4.2171	1.34	-
0.69	763	189 Shell-Thick	INVSLE Combination	5.4807	3.7943	1.28	-
0.66	763	189 Shell-Thick	INVSLE Combination	5.3285	3.7159	1.28	-
0.66	763	189 Shell-Thick	INVSLE Combination	5.8136	4.1409	1.34	-
3.18	763	189 Shell-Thick	INVSLE Combination	3.7734	2.9635	0.83	-
3.18	763	189 Shell-Thick	INVSLE Combination	3.5435	2.8729	0.80	-
3.13	763	189 Shell-Thick	INVSLE Combination	3.4474	2.8178	0.80	-
3.13	763	189 Shell-Thick	INVSLE Combination	3.6769	2.9087	0.83	-
0.93	763	189 Shell-Thick	INVSLE Combination	10.4637	6.7831	2.37	-
0.93	763	189 Shell-Thick	INVSLE Combination	9.4461	5.6803	2.24	-
0.90	763	189 Shell-Thick	INVSLE Combination	9.1791	5.5543	2.24	-
0.90	763	189 Shell-Thick	INVSLE Combination	10.1875	6.6632	2.37	-
8.28	763	189 Shell-Thick	INVSLE Combination	5.0941	4.0007	1.12	-
8.28	763	189 Shell-Thick	INVSLE Combination	4.7837	3.8784	1.09	-
8.17	763	189 Shell-Thick	INVSLE Combination	4.6540	3.8041	1.09	-
8.17	763	189 Shell-Thick	INVSLE Combination	4.9638	3.9268	1.12	-
0.66	764	190 Shell-Thick	INVSLE Combination	5.8730	4.1476	3.19	-
0.66	764	190 Shell-Thick	INVSLE Combination	5.4058	3.7366	3.05	-
0.61	764	190 Shell-Thick	INVSLE Combination	5.0410	3.5538	3.05	-
0.61	764	190 Shell-Thick	INVSLE Combination	5.5029	3.9683	3.19	-
3.13	764	190 Shell-Thick	INVSLE Combination	3.7191	2.9159	1.99	-
3.13	764	190 Shell-Thick	INVSLE Combination	3.5022	2.8301	1.92	-
3.01	764	190 Shell-Thick	INVSLE Combination	3.2717	2.7018	1.92	-
3.01	764	190 Shell-Thick	INVSLE Combination	3.4888	2.7874	1.99	-
0.90	764	190 Shell-Thick	INVSLE Combination	10.2820	6.6690	5.65	-
0.90	764	190 Shell-Thick	INVSLE Combination	9.3024	5.5921	5.35	-
0.82	764	190 Shell-Thick	INVSLE Combination	8.6626	5.2977	5.35	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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0.82	764	190 Shell-Thick	INVSLU Combination	9.6257	6.3856	5.65	-
8.18	764	190 Shell-Thick	INVSLU Combination	5.0207	3.9364	2.68	-
8.18	764	190 Shell-Thick	INVSLU Combination	4.7280	3.8206	2.60	-
7.92	764	190 Shell-Thick	INVSLU Combination	4.4168	3.6474	2.60	-
7.92	764	190 Shell-Thick	INVSLU Combination	4.7098	3.7629	2.68	-
0.61	765	191 Shell-Thick	INVSLE Combination	5.6066	3.9807	5.07	-
0.61	765	191 Shell-Thick	INVSLE Combination	5.1825	3.5904	4.85	-
0.53	765	191 Shell-Thick	INVSLE Combination	4.6018	3.3055	4.85	-
0.53	765	191 Shell-Thick	INVSLE Combination	5.0182	3.7008	5.07	-
3.02	765	191 Shell-Thick	INVSLE Combination	3.5631	2.8003	3.16	-
3.02	765	191 Shell-Thick	INVSLE Combination	3.3709	2.7235	3.07	-
2.82	765	191 Shell-Thick	INVSLE Combination	3.0034	2.5233	3.07	-
2.82	765	191 Shell-Thick	INVSLE Combination	3.1964	2.5997	3.16	-
0.83	765	191 Shell-Thick	INVSLU Combination	9.7895	6.3967	8.98	-
0.83	765	191 Shell-Thick	INVSLU Combination	8.8908	5.3650	8.51	-
0.71	765	191 Shell-Thick	INVSLU Combination	7.8735	4.9065	8.51	-
0.71	765	191 Shell-Thick	INVSLU Combination	8.7474	5.9546	8.98	-
7.94	765	191 Shell-Thick	INVSLU Combination	4.8102	3.7805	4.27	-
7.94	765	191 Shell-Thick	INVSLU Combination	4.5507	3.6767	4.14	-
7.53	765	191 Shell-Thick	INVSLU Combination	4.0547	3.4065	4.14	-
7.53	765	191 Shell-Thick	INVSLU Combination	4.3151	3.5096	4.27	-
0.53	766	192 Shell-Thick	INVSLE Combination	5.1626	3.7176	7.00	-
0.53	766	192 Shell-Thick	INVSLE Combination	4.7968	3.3566	6.71	-
0.42	766	192 Shell-Thick	INVSLE Combination	3.9949	2.9711	6.71	-
0.42	766	192 Shell-Thick	INVSLE Combination	4.3502	3.3389	7.00	-
0.42	766	192 Shell-Thick	INVSLE Combination	3.2988	2.6176	4.37	-
2.84	766	192 Shell-Thick	INVSLE Combination	3.1400	2.5533	4.25	-
2.84	766	192 Shell-Thick	INVSLE Combination	2.6317	2.2831	4.25	-
2.58	766	192 Shell-Thick	INVSLE Combination	2.7913	2.3469	4.37	-
2.58	766	192 Shell-Thick	INVSLE Combination	2.7913	2.3469	4.37	-
0.72	766	192 Shell-Thick	INVSLU Combination	8.9776	5.9692	12.37	-
0.72	766	192 Shell-Thick	INVSLU Combination	8.1881	5.0010	11.74	-
0.57	766	192 Shell-Thick	INVSLU Combination	6.7852	4.3793	11.74	-
0.57	766	192 Shell-Thick	INVSLU Combination	7.5410	5.3697	12.37	-
7.56	766	192 Shell-Thick	INVSLU Combination	4.4534	3.5337	5.91	-
7.56	766	192 Shell-Thick	INVSLU Combination	4.2390	3.4469	5.74	-
7.01	766	192 Shell-Thick	INVSLU Combination	3.5528	3.0822	5.74	-
7.01	766	192 Shell-Thick	INVSLU Combination	3.7683	3.1682	5.91	-
0.42	767	193 Shell-Thick	INVSLE Combination	4.5219	3.3581	8.99	-
0.42	767	193 Shell-Thick	INVSLE Combination	4.2345	3.0342	8.63	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 257 di 416
0.30	767	193 Shell-Thick	INVSLE Combination	3.2042	2.5540	8.63	-	
0.30	767	193 Shell-Thick	INVSLE Combination	3.4774	2.8873	8.99	-	
2.60	767	193 Shell-Thick	INVSLE Combination	2.9132	2.3682	5.63	-	
2.60	767	193 Shell-Thick	INVSLE Combination	2.7980	2.3194	5.48	-	
2.29	767	193 Shell-Thick	INVSLE Combination	2.1434	1.9831	5.48	-	
2.29	767	193 Shell-Thick	INVSLE Combination	2.2590	2.0315	5.63	-	
0.57	767	193 Shell-Thick	INVSLE Combination	2.2590	2.0315	5.63	-	
0.57	767	193 Shell-Thick	INVSLE Combination	2.2590	2.0315	5.63	-	
0.40	767	193 Shell-Thick	INVSLE Combination	2.2590	2.0315	5.63	-	
0.40	767	193 Shell-Thick	INVSLE Combination	2.2590	2.0315	5.63	-	
7.05	767	193 Shell-Thick	INVSLE Combination	2.2590	2.0315	5.63	-	
7.05	767	193 Shell-Thick	INVSLE Combination	2.2590	2.0315	5.63	-	
6.36	767	193 Shell-Thick	INVSLE Combination	2.2590	2.0315	5.63	-	
6.36	767	193 Shell-Thick	INVSLE Combination	2.2590	2.0315	5.63	-	
0.30	768	194 Shell-Thick	INVSLE Combination	3.6655	2.9062	11.05	-	
0.30	768	194 Shell-Thick	INVSLE Combination	3.4700	2.6259	10.64	-	
0.16	768	194 Shell-Thick	INVSLE Combination	2.2020	2.0552	10.64	-	
0.16	768	194 Shell-Thick	INVSLE Combination	2.3790	2.3478	11.05	-	
2.31	768	194 Shell-Thick	INVSLE Combination	2.3907	2.0543	6.94	-	
2.31	768	194 Shell-Thick	INVSLE Combination	2.3264	2.0232	6.78	-	
1.95	768	194 Shell-Thick	INVSLE Combination	1.5185	1.6251	6.78	-	
1.95	768	194 Shell-Thick	INVSLE Combination	1.5824	1.6563	6.94	-	
0.41	768	194 Shell-Thick	INVSLE Combination	6.2750	4.6499	19.46	-	
0.41	768	194 Shell-Thick	INVSLE Combination	6.2750	4.6499	19.46	-	
0.22	768	194 Shell-Thick	INVSLE Combination	6.2750	4.6499	19.46	-	
0.22	768	194 Shell-Thick	INVSLE Combination	6.2750	4.6499	19.46	-	
6.42	768	194 Shell-Thick	INVSLE Combination	6.2750	4.6499	19.46	-	
6.42	768	194 Shell-Thick	INVSLE Combination	6.2750	4.6499	19.46	-	
5.61	768	194 Shell-Thick	INVSLE Combination	6.2750	4.6499	19.46	-	
5.61	768	194 Shell-Thick	INVSLE Combination	6.2750	4.6499	19.46	-	
0.17	769	195 Shell-Thick	INVSLE Combination	2.5628	2.3629	13.20	-	
0.17	769	195 Shell-Thick	INVSLE Combination	2.4755	2.1316	12.76	-	
02	769	195 Shell-Thick	INVSLE Combination	0.9588	1.4816	12.76	-2.677E-	
02	769	195 Shell-Thick	INVSLE Combination	1.0218	1.7291	13.20	-2.677E-	
1.98	769	195 Shell-Thick	INVSLE Combination	1.7096	1.6781	8.32	-	
1.98	769	195 Shell-Thick	INVSLE Combination	1.7036	1.6658	8.16	-	
1.59	769	195 Shell-Thick	INVSLE Combination	0.7338	1.2133	8.16	-	
1.59	769	195 Shell-Thick	INVSLE Combination	0.7379	1.2269	8.32	-	
0.22	769	195 Shell-Thick	INVSLE Combination	4.3094	3.7647	23.19	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 258 di 416
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0.22	769	195 Shell-Thick	INVS LU Combination	4.0556	3.0850	22.17	-	
02	769	195 Shell-Thick	INVS LU Combination	1.4195	2.0404	22.17	-3.614E-	
02	769	195 Shell-Thick	INVS LU Combination	1.6030	2.7572	23.19	-3.614E-	
5.68	769	195 Shell-Thick	INVS LU Combination	2.3080	2.2655	11.23	-	
5.68	769	195 Shell-Thick	INVS LU Combination	2.2998	2.2488	11.02	-	
4.78	769	195 Shell-Thick	INVS LU Combination	0.9906	1.6380	11.02	-	
4.78	769	195 Shell-Thick	INVS LU Combination	0.9962	1.6563	11.23	-	
02	770	196 Shell-Thick	INVS LE Combination	1.1812	1.7363	15.47	-3.074E-	
02	770	196 Shell-Thick	INVS LE Combination	1.2114	1.5569	15.00	-3.074E-	
02	770	196 Shell-Thick	INVS LE Combination	-0.2417	0.8371	15.00	9.689E-	
02	770	196 Shell-Thick	INVS LE Combination	-0.3013	1.0369	15.47	9.689E-	
1.61	770	196 Shell-Thick	INVS LE Combination	0.8444	1.2445	9.78	-	
1.61	770	196 Shell-Thick	INVS LE Combination	0.9000	1.2503	9.64	-	
1.21	770	196 Shell-Thick	INVS LE Combination	-0.5674	0.7524	9.64	-	
1.21	770	196 Shell-Thick	INVS LE Combination	-0.6285	0.7493	9.78	-	
02	770	196 Shell-Thick	INVS LU Combination	1.8707	2.7429	27.10	-4.150E-	
02	770	196 Shell-Thick	INVS LU Combination	1.8490	2.1845	25.99	-4.150E-	
0.13	770	196 Shell-Thick	INVS LU Combination	-0.3263	1.1427	25.99	-	
0.13	770	196 Shell-Thick	INVS LU Combination	-0.4068	1.6257	27.10	-	
4.85	770	196 Shell-Thick	INVS LU Combination	1.1399	1.6801	13.21	-	
4.85	770	196 Shell-Thick	INVS LU Combination	1.2150	1.6878	13.01	-	
3.88	770	196 Shell-Thick	INVS LU Combination	-1.2340	1.0104	13.01	-	
3.88	770	196 Shell-Thick	INVS LU Combination	-1.2983	1.0115	13.21	-	
02	771	197 Shell-Thick	INVS LE Combination	-0.2373	1.0307	17.85	9.317E-	
02	771	197 Shell-Thick	INVS LE Combination	-0.1188	0.9044	17.39	9.317E-	
0.19	771	197 Shell-Thick	INVS LE Combination	-1.4438	0.2505	17.39	-	
0.19	771	197 Shell-Thick	INVS LE Combination	-1.5693	0.2863	17.85	-	
1.24	771	197 Shell-Thick	INVS LE Combination	-0.5234	0.7588	11.34	-	
1.24	771	197 Shell-Thick	INVS LE Combination	-0.3669	0.7804	11.22	-	
0.83	771	197 Shell-Thick	INVS LE Combination	-2.4228	0.1341	11.22	-	
0.83	771	197 Shell-Thick	INVS LE Combination	-2.6184	0.2335	11.34	-	
0.13	771	197 Shell-Thick	INVS LU Combination	-0.3203	1.5874	31.19	-	
0.13	771	197 Shell-Thick	INVS LU Combination	-0.1604	1.2396	30.02	-	
0.26	771	197 Shell-Thick	INVS LU Combination	-1.9491	0.3382	30.02	-	
0.26	771	197 Shell-Thick	INVS LU Combination	-2.1185	0.3945	31.19	-	
3.96	771	197 Shell-Thick	INVS LU Combination	-1.1091	1.0243	15.31	-	
3.96	771	197 Shell-Thick	INVS LU Combination	-0.8748	1.0535	15.15	-	
2.94	771	197 Shell-Thick	INVS LU Combination	-4.4269	-0.1042	15.15	-	
2.94	771	197 Shell-Thick	INVS LU Combination	-4.7659	0.3153	15.31	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 259 di 416
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0.19	772	198 Shell-Thick	INVSLE Combination	-1.5724	0.2603	20.37		
0.19	772	198 Shell-Thick	INVSLE Combination	-1.3958	0.2629	19.94		
0.25	772	198 Shell-Thick	INVSLE Combination	-2.9171	-0.2829	19.94		
0.25	772	198 Shell-Thick	INVSLE Combination	-3.1043	-0.3087	20.37		
0.87	772	198 Shell-Thick	INVSLE Combination	-2.5997	0.2301	12.99	-	
0.87	772	198 Shell-Thick	INVSLE Combination	-2.3169	0.1850	12.93	-	
0.49	772	198 Shell-Thick	INVSLE Combination	-4.6671	-0.6175	12.93	-	
0.49	772	198 Shell-Thick	INVSLE Combination	-4.9980	-0.5101	12.99	-	
0.26	772	198 Shell-Thick	INVSLE Combination	-2.1228	0.3560	35.48		
0.26	772	198 Shell-Thick	INVSLE Combination	-1.8844	0.3549	34.30		
0.33	772	198 Shell-Thick	INVSLE Combination	-3.9381	-0.3820	34.30		
0.33	772	198 Shell-Thick	INVSLE Combination	-4.1908	-0.4167	35.48		
3.03	772	198 Shell-Thick	INVSLE Combination	-4.7025	0.3106	17.54	-	
3.03	772	198 Shell-Thick	INVSLE Combination	-4.2022	0.0257	17.46	-	
2.00	772	198 Shell-Thick	INVSLE Combination	-8.2491	-1.3022	17.46	-	
2.00	772	198 Shell-Thick	INVSLE Combination	-8.8743	-0.9225	17.54	-	
0.24	773	199 Shell-Thick	INVSLE Combination	-3.2052	-0.3308	23.04		
0.24	773	199 Shell-Thick	INVSLE Combination	-2.9816	-0.2939	22.67		
0.23	773	199 Shell-Thick	INVSLE Combination	-4.7131	-0.8341	22.67		
0.23	773	199 Shell-Thick	INVSLE Combination	-4.9516	-0.8609	23.04		
0.53	773	199 Shell-Thick	INVSLE Combination	-5.1071	-0.5638	14.76	-	
0.53	773	199 Shell-Thick	INVSLE Combination	-4.7049	-0.5932	14.77	-	
0.20	773	199 Shell-Thick	INVSLE Combination	-7.3675	-1.3971	14.77	-	
0.20	773	199 Shell-Thick	INVSLE Combination	-7.8285	-1.3284	14.76	-	
0.33	773	199 Shell-Thick	INVSLE Combination	-4.3270	-0.4465	40.00		
0.33	773	199 Shell-Thick	INVSLE Combination	-4.0251	-0.3968	38.85		
0.31	773	199 Shell-Thick	INVSLE Combination	-6.3626	-1.1260	38.85		
0.31	773	199 Shell-Thick	INVSLE Combination	-6.6846	-1.1622	40.00		
2.10	773	199 Shell-Thick	INVSLE Combination	-9.0001	-1.0407	19.92	-	
2.10	773	199 Shell-Thick	INVSLE Combination	-8.2323	-1.2057	19.94	-	
1.09	773	199 Shell-Thick	INVSLE Combination	-12.8009	-2.5495	19.94	-	
1.09	773	199 Shell-Thick	INVSLE Combination	-13.7174	-2.2853	19.92	-	
0.23	774	200 Shell-Thick	INVSLE Combination	-5.2903	-0.9289	26.61		
0.23	774	200 Shell-Thick	INVSLE Combination	-5.0390	-0.8990	26.35		
02	774	200 Shell-Thick	INVSLE Combination	-8.0714	-1.6383	26.35	9.031E-	
02	774	200 Shell-Thick	INVSLE Combination	-8.3335	-1.6427	26.61	9.031E-	
0.25	774	200 Shell-Thick	INVSLE Combination	-8.2564	-1.4575	17.13	-	
0.25	774	200 Shell-Thick	INVSLE Combination	-7.7220	-1.4244	17.29	-	
02	774	200 Shell-Thick	INVSLE Combination	-12.3779	-2.5603	17.29	2.557E-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 260 di 416
02	774	200 Shell-Thick	INVSLE Combination	-12.9504	-2.5054	17.13	2.557E-	
0.31	774	200 Shell-Thick	INVSLE Combination	-7.1418	-1.2540	46.02		
0.31	774	200 Shell-Thick	INVSLE Combination	-6.8026	-1.2137	44.91		
0.22	774	200 Shell-Thick	INVSLE Combination	-10.8964	-2.2116	44.91		
0.22	774	200 Shell-Thick	INVSLE Combination	-11.2503	-2.2177	46.02		
1.24	774	200 Shell-Thick	INVSLE Combination	-14.3278	-2.5396	23.13	-	
1.24	774	200 Shell-Thick	INVSLE Combination	-13.2139	-2.4999	23.34	-	
02	774	200 Shell-Thick	INVSLE Combination	-21.1930	-4.4476	23.34	3.452E-	
02	774	200 Shell-Thick	INVSLE Combination	-22.4008	-4.2712	23.13	3.452E-	
0.11	784	201 Shell-Thick	INVSLE Combination	-8.1633	-1.5872	-17.92		
0.11	784	201 Shell-Thick	INVSLE Combination	-7.7361	-1.5927	-17.90		
02	784	201 Shell-Thick	INVSLE Combination	-5.6424	-1.0976	-17.90	3.007E-	
02	784	201 Shell-Thick	INVSLE Combination	-6.0374	-1.1137	-17.92	3.007E-	
02	784	201 Shell-Thick	INVSLE Combination	-12.4585	-2.3887	-27.29	4.788E-	
02	784	201 Shell-Thick	INVSLE Combination	-11.6410	-2.4312	-26.81	4.788E-	
0.31	784	201 Shell-Thick	INVSLE Combination	-8.4983	-1.6843	-26.81	-	
0.31	784	201 Shell-Thick	INVSLE Combination	-9.2291	-1.6997	-27.29	-	
0.23	784	201 Shell-Thick	INVSLE Combination	-11.0204	-2.1427	-24.20		
0.23	784	201 Shell-Thick	INVSLE Combination	-10.4438	-2.1501	-24.17		
02	784	201 Shell-Thick	INVSLE Combination	-7.6173	-1.4818	-24.17	4.059E-	
02	784	201 Shell-Thick	INVSLE Combination	-8.1505	-1.5034	-24.20	4.059E-	
02	784	201 Shell-Thick	INVSLE Combination	-21.2507	-4.0294	-46.47	6.464E-	
02	784	201 Shell-Thick	INVSLE Combination	-19.6341	-4.1475	-45.05	6.464E-	
1.01	784	201 Shell-Thick	INVSLE Combination	-14.3441	-2.8852	-45.05	-	
1.01	784	201 Shell-Thick	INVSLE Combination	-15.7624	-2.8994	-46.47	-	
02	785	202 Shell-Thick	INVSLE Combination	-5.7586	-1.0485	-15.86	4.104E-	
02	785	202 Shell-Thick	INVSLE Combination	-5.4017	-1.0589	-15.73	4.104E-	
02	785	202 Shell-Thick	INVSLE Combination	-3.5531	-0.5159	-15.73	-7.664E-	
02	785	202 Shell-Thick	INVSLE Combination	-3.8862	-0.5214	-15.86	-7.664E-	
0.26	785	202 Shell-Thick	INVSLE Combination	-8.9011	-1.5883	-24.27	-	
0.26	785	202 Shell-Thick	INVSLE Combination	-8.2525	-1.6810	-23.69	-	
0.77	785	202 Shell-Thick	INVSLE Combination	-5.4632	-0.8804	-23.69	-	
0.77	785	202 Shell-Thick	INVSLE Combination	-6.0417	-0.8344	-24.27	-	
02	785	202 Shell-Thick	INVSLE Combination	-7.7741	-1.4155	-21.42	5.540E-	
02	785	202 Shell-Thick	INVSLE Combination	-7.2923	-1.4295	-21.24	5.540E-	
0.10	785	202 Shell-Thick	INVSLE Combination	-4.7967	-0.6965	-21.24	-	
0.10	785	202 Shell-Thick	INVSLE Combination	-5.2464	-0.7040	-21.42	-	
0.87	785	202 Shell-Thick	INVSLE Combination	-15.3336	-2.6931	-41.49	-	
0.87	785	202 Shell-Thick	INVSLE Combination	-14.0878	-2.9545	-39.97	-	

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 261 di 416
2.20	785	202 Shell-Thick	INVS LU Combination	-9.3731	-1.6265	-39.97	-	
2.20	785	202 Shell-Thick	INVS LU Combination	-10.4540	-1.4749	-41.49	-	
02	786	203 Shell-Thick	INVS LE Combination	-3.7697	-0.4883	-13.95	-6.553E-	
02	786	203 Shell-Thick	INVS LE Combination	-3.5010	-0.5153	-13.73	-6.553E-	
0.25	786	203 Shell-Thick	INVS LE Combination	-1.8793	0.0431	-13.73	-	
0.25	786	203 Shell-Thick	INVS LE Combination	-2.1312	0.0590	-13.95	-	
0.73	786	203 Shell-Thick	INVS LE Combination	-5.9252	-0.7680	-21.45	-	
0.73	786	203 Shell-Thick	INVS LE Combination	-5.4592	-0.9227	-20.79	-	
1.30	786	203 Shell-Thick	INVS LE Combination	-2.9997	-0.1133	-20.79	-	
1.30	786	203 Shell-Thick	INVS LE Combination	-3.4098	0.0041	-21.45	-	
02	786	203 Shell-Thick	INVS LU Combination	-5.0891	-0.6592	-18.83	-8.847E-	
02	786	203 Shell-Thick	INVS LU Combination	-4.7264	-0.6957	-18.54	-8.847E-	
0.34	786	203 Shell-Thick	INVS LU Combination	-2.5370	0.0582	-18.54	-	
0.34	786	203 Shell-Thick	INVS LU Combination	-2.8772	0.0797	-18.83	-	
2.08	786	203 Shell-Thick	INVS LU Combination	-10.3375	-1.3406	-36.80	-	
2.08	786	203 Shell-Thick	INVS LU Combination	-9.4674	-1.7565	-35.25	-	
3.43	786	203 Shell-Thick	INVS LU Combination	-5.2932	-0.4336	-35.25	-	
3.43	786	203 Shell-Thick	INVS LU Combination	-6.0269	-0.1084	-36.80	-	
0.24	787	204 Shell-Thick	INVS LE Combination	-2.1329	0.0688	-12.17	-	
0.24	787	204 Shell-Thick	INVS LE Combination	-1.9600	0.0169	-11.90	-	
0.48	787	204 Shell-Thick	INVS LE Combination	-0.5477	0.6017	-11.90	-	
0.48	787	204 Shell-Thick	INVS LE Combination	-0.7100	0.7961	-12.17	-	
1.25	787	204 Shell-Thick	INVS LE Combination	-3.4455	0.0370	-18.80	-	
1.25	787	204 Shell-Thick	INVS LE Combination	-3.1638	-0.1862	-18.12	-	
1.85	787	204 Shell-Thick	INVS LE Combination	-1.0112	0.5656	-18.12	-	
1.85	787	204 Shell-Thick	INVS LE Combination	-1.2496	0.6105	-18.80	-	
0.33	787	204 Shell-Thick	INVS LU Combination	-2.8794	0.0928	-16.43	-	
0.33	787	204 Shell-Thick	INVS LU Combination	-2.6461	0.0229	-16.07	-	
0.64	787	204 Shell-Thick	INVS LU Combination	-0.7394	0.8177	-16.07	-	
0.64	787	204 Shell-Thick	INVS LU Combination	-0.9585	1.1761	-16.43	-	
3.32	787	204 Shell-Thick	INVS LU Combination	-6.1323	-0.0281	-32.38	-	
3.32	787	204 Shell-Thick	INVS LU Combination	-5.6277	-0.6019	-30.85	-	
4.67	787	204 Shell-Thick	INVS LU Combination	-1.9598	0.6754	-30.85	-	
4.67	787	204 Shell-Thick	INVS LU Combination	-2.3541	0.8242	-32.38	-	
0.47	788	205 Shell-Thick	INVS LE Combination	-0.7936	0.8049	-10.52	-	
0.47	788	205 Shell-Thick	INVS LE Combination	-0.7149	0.5222	-10.23	-	
0.72	788	205 Shell-Thick	INVS LE Combination	0.5843	1.2494	-10.23	-	
0.72	788	205 Shell-Thick	INVS LE Combination	0.5094	1.5219	-10.52	-	
1.81	788	205 Shell-Thick	INVS LE Combination	-1.3900	0.6038	-16.33	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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1.81	788	205 Shell-Thick	INVSLE Combination	-1.2821	0.5106	-15.65	-
2.40	788	205 Shell-Thick	INVSLE Combination	0.5039	1.0414	-15.65	-
2.40	788	205 Shell-Thick	INVSLE Combination	0.4310	1.1192	-16.33	-
0.63	788	205 Shell-Thick	INVSLE Combination	-1.0714	1.2166	-14.20	-
0.63	788	205 Shell-Thick	INVSLE Combination	-0.9651	0.7049	-13.81	-
0.97	788	205 Shell-Thick	INVSLE Combination	0.8009	1.7179	-13.81	-
0.97	788	205 Shell-Thick	INVSLE Combination	0.6994	2.3461	-14.20	-
4.57	788	205 Shell-Thick	INVSLE Combination	-2.6109	0.8151	-28.21	-
4.57	788	205 Shell-Thick	INVSLE Combination	-2.4430	0.4869	-26.75	-
5.85	788	205 Shell-Thick	INVSLE Combination	0.6802	1.4059	-26.75	-
5.85	788	205 Shell-Thick	INVSLE Combination	0.5819	1.5110	-28.21	-
0.71	789	206 Shell-Thick	INVSLE Combination	0.3060	1.5143	-8.98	-
0.71	789	206 Shell-Thick	INVSLE Combination	0.2858	1.1499	-8.69	-
0.97	789	206 Shell-Thick	INVSLE Combination	1.8515	1.8246	-8.69	-
0.97	789	206 Shell-Thick	INVSLE Combination	1.9293	2.1731	-8.98	-
2.37	789	206 Shell-Thick	INVSLE Combination	0.2966	1.1019	-14.00	-
2.37	789	206 Shell-Thick	INVSLE Combination	0.2523	0.9883	-13.36	-
2.93	789	206 Shell-Thick	INVSLE Combination	1.3255	1.4644	-13.36	-
2.93	789	206 Shell-Thick	INVSLE Combination	1.3384	1.5767	-14.00	-
0.96	789	206 Shell-Thick	INVSLE Combination	0.4145	2.3586	-12.13	-
0.96	789	206 Shell-Thick	INVSLE Combination	0.3859	1.5766	-11.73	-
1.31	789	206 Shell-Thick	INVSLE Combination	2.9281	2.5618	-11.73	-
1.31	789	206 Shell-Thick	INVSLE Combination	3.1388	3.3940	-12.13	-
5.76	789	206 Shell-Thick	INVSLE Combination	0.3252	1.4875	-24.28	-
5.76	789	206 Shell-Thick	INVSLE Combination	0.1838	1.3342	-22.91	-
6.96	789	206 Shell-Thick	INVSLE Combination	1.7894	1.9769	-22.91	-
6.96	789	206 Shell-Thick	INVSLE Combination	1.8068	2.1285	-24.28	-
0.96	790	207 Shell-Thick	INVSLE Combination	1.6931	2.1552	-7.55	-
0.96	790	207 Shell-Thick	INVSLE Combination	1.4980	1.7245	-7.27	-
1.21	790	207 Shell-Thick	INVSLE Combination	2.8461	2.3200	-7.27	-
1.21	790	207 Shell-Thick	INVSLE Combination	3.0585	2.7395	-7.55	-
2.90	790	207 Shell-Thick	INVSLE Combination	1.1769	1.5532	-11.82	-
2.90	790	207 Shell-Thick	INVSLE Combination	1.0864	1.4077	-11.22	-
3.42	790	207 Shell-Thick	INVSLE Combination	1.9594	1.8301	-11.22	-
3.42	790	207 Shell-Thick	INVSLE Combination	2.0494	1.9761	-11.82	-
1.30	790	207 Shell-Thick	INVSLE Combination	2.7497	3.3876	-10.19	-
1.30	790	207 Shell-Thick	INVSLE Combination	2.3404	2.3756	-9.81	-
1.63	790	207 Shell-Thick	INVSLE Combination	4.6611	3.3228	-9.81	-
1.63	790	207 Shell-Thick	INVSLE Combination	5.1240	4.3021	-10.19	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 263 di 416
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6.88	790	207 Shell-Thick	INVSLU Combination	1.5888	2.0968	-20.54	-	
6.88	790	207 Shell-Thick	INVSLU Combination	1.4667	1.9005	-19.32	-	
7.95	790	207 Shell-Thick	INVSLU Combination	2.6452	2.4707	-19.32	-	
7.95	790	207 Shell-Thick	INVSLU Combination	2.7667	2.6677	-20.54	-	
1.20	791	208 Shell-Thick	INVSLE Combination	2.8178	2.7162	-6.21	-	
1.20	791	208 Shell-Thick	INVSLE Combination	2.4983	2.2256	-5.95	-	
1.42	791	208 Shell-Thick	INVSLE Combination	3.6097	2.7357	-5.95	-	
1.42	791	208 Shell-Thick	INVSLE Combination	3.9408	3.2189	-6.21	-	
3.39	791	208 Shell-Thick	INVSLE Combination	1.8816	1.9502	-9.75	-	
3.39	791	208 Shell-Thick	INVSLE Combination	1.7209	1.7747	-9.23	-	
3.85	791	208 Shell-Thick	INVSLE Combination	2.4381	2.1370	-9.23	-	
3.85	791	208 Shell-Thick	INVSLE Combination	2.5965	2.3141	-9.75	-	
1.62	791	208 Shell-Thick	INVSLU Combination	4.7343	4.2843	-8.38	-	
1.62	791	208 Shell-Thick	INVSLU Combination	4.0897	3.1484	-8.04	-	
1.92	791	208 Shell-Thick	INVSLU Combination	6.0081	3.9610	-8.04	-	
1.92	791	208 Shell-Thick	INVSLU Combination	6.6924	5.0708	-8.38	-	
7.89	791	208 Shell-Thick	INVSLU Combination	2.5401	2.6328	-16.99	-	
7.89	791	208 Shell-Thick	INVSLU Combination	2.3232	2.3959	-15.93	-	
8.82	791	208 Shell-Thick	INVSLU Combination	3.2914	2.8850	-15.93	-	
8.82	791	208 Shell-Thick	INVSLU Combination	3.5053	3.1241	-16.99	-	
1.42	792	209 Shell-Thick	INVSLE Combination	3.7134	3.1942	-4.94	-	
1.42	792	209 Shell-Thick	INVSLE Combination	3.2930	2.6515	-4.72	-	
1.61	792	209 Shell-Thick	INVSLE Combination	4.1791	3.0686	-4.72	-	
1.61	792	209 Shell-Thick	INVSLE Combination	4.6069	3.6065	-4.94	-	
3.83	792	209 Shell-Thick	INVSLE Combination	2.4368	2.2888	-7.77	-	
3.83	792	209 Shell-Thick	INVSLE Combination	2.2186	2.0866	-7.34	-	
4.21	792	209 Shell-Thick	INVSLE Combination	2.7887	2.3837	-7.34	-	
4.21	792	209 Shell-Thick	INVSLE Combination	3.0038	2.5881	-7.77	-	
1.91	792	209 Shell-Thick	INVSLU Combination	6.3265	5.0475	-6.67	-	
1.91	792	209 Shell-Thick	INVSLU Combination	5.4921	3.8079	-6.37	-	
2.17	792	209 Shell-Thick	INVSLU Combination	7.0251	4.4705	-6.37	-	
2.17	792	209 Shell-Thick	INVSLU Combination	7.8883	5.6912	-6.67	-	
8.76	792	209 Shell-Thick	INVSLU Combination	3.2896	3.0898	-13.58	-	
8.76	792	209 Shell-Thick	INVSLU Combination	2.9951	2.8169	-12.70	-	
9.53	792	209 Shell-Thick	INVSLU Combination	3.7648	3.2180	-12.70	-	
9.53	792	209 Shell-Thick	INVSLU Combination	4.0552	3.4939	-13.58	-	
1.60	793	210 Shell-Thick	INVSLE Combination	4.4114	3.5835	-3.73	-	
1.60	793	210 Shell-Thick	INVSLE Combination	3.9086	2.9984	-3.55	-	
1.75	793	210 Shell-Thick	INVSLE Combination	4.5790	3.3205	-3.55	-	

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 264 di 416
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1.75	793	210 Shell-Thick	INVSLE Combination	5.0858	3.9031	-3.73	-
4.19	793	210 Shell-Thick	INVSLE Combination	2.8653	2.5655	-5.88	-
4.19	793	210 Shell-Thick	INVSLE Combination	2.6007	2.3410	-5.54	-
4.49	793	210 Shell-Thick	INVSLE Combination	3.0310	2.5705	-5.54	-
4.49	793	210 Shell-Thick	INVSLE Combination	3.2923	2.7973	-5.88	-
2.16	793	210 Shell-Thick	INVSLE Combination	7.5763	5.6673	-5.03	-
2.16	793	210 Shell-Thick	INVSLE Combination	6.5857	4.3441	-4.80	-
2.37	793	210 Shell-Thick	INVSLE Combination	7.7476	4.8558	-4.80	-
2.37	793	210 Shell-Thick	INVSLE Combination	8.7571	6.1666	-5.03	-
9.49	793	210 Shell-Thick	INVSLE Combination	3.8682	3.4634	-10.29	-
9.49	793	210 Shell-Thick	INVSLE Combination	3.5109	3.1603	-9.60	-
10.10	793	210 Shell-Thick	INVSLE Combination	4.0918	3.4701	-9.60	-
10.10	793	210 Shell-Thick	INVSLE Combination	4.4445	3.7763	-10.29	-
1.75	794	211 Shell-Thick	INVSLE Combination	4.9313	3.8840	-2.56	-
1.75	794	211 Shell-Thick	INVSLE Combination	4.3703	3.2669	-2.44	-
1.86	794	211 Shell-Thick	INVSLE Combination	4.8318	3.4906	-2.44	-
1.86	794	211 Shell-Thick	INVSLE Combination	5.3945	4.1067	-2.56	-
4.48	794	211 Shell-Thick	INVSLE Combination	3.1828	2.7792	-4.05	-
4.48	794	211 Shell-Thick	INVSLE Combination	2.8852	2.5375	-3.80	-
4.69	794	211 Shell-Thick	INVSLE Combination	3.1809	2.6972	-3.80	-
4.69	794	211 Shell-Thick	INVSLE Combination	3.4756	2.9409	-4.05	-
2.36	794	211 Shell-Thick	INVSLE Combination	8.5102	6.1455	-3.46	-
2.36	794	211 Shell-Thick	INVSLE Combination	7.4102	4.7600	-3.29	-
2.51	794	211 Shell-Thick	INVSLE Combination	8.2111	5.1147	-3.29	-
2.51	794	211 Shell-Thick	INVSLE Combination	9.3224	6.4929	-3.46	-
10.07	794	211 Shell-Thick	INVSLE Combination	4.2968	3.7519	-7.09	-
10.07	794	211 Shell-Thick	INVSLE Combination	3.8950	3.4257	-6.61	-
10.49	794	211 Shell-Thick	INVSLE Combination	4.2942	3.6412	-6.61	-
10.49	794	211 Shell-Thick	INVSLE Combination	4.6920	3.9702	-7.09	-
1.86	795	212 Shell-Thick	INVSLE Combination	5.2921	4.0933	-1.43	-
1.86	795	212 Shell-Thick	INVSLE Combination	4.6916	3.4555	-1.35	-
1.92	795	212 Shell-Thick	INVSLE Combination	4.9492	3.5804	-1.35	-
1.92	795	212 Shell-Thick	INVSLE Combination	5.5495	4.2184	-1.43	-
4.68	795	212 Shell-Thick	INVSLE Combination	3.4025	2.9285	-2.25	-
4.68	795	212 Shell-Thick	INVSLE Combination	3.0833	2.6755	-2.12	-
4.80	795	212 Shell-Thick	INVSLE Combination	3.2481	2.7646	-2.12	-
4.80	795	212 Shell-Thick	INVSLE Combination	3.5651	3.0192	-2.25	-
2.51	795	212 Shell-Thick	INVSLE Combination	9.1600	6.4775	-1.92	-
2.51	795	212 Shell-Thick	INVSLE Combination	7.9838	5.0522	-1.83	-

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2.59	795	212 Shell-Thick	INVS LU Combination	8.4312	5.2503	-1.83	-
2.59	795	212 Shell-Thick	INVS LU Combination	9.6115	6.6730	-1.92	-
10.47	795	212 Shell-Thick	INVS LU Combination	4.5934	3.9535	-3.95	-
10.47	795	212 Shell-Thick	INVS LU Combination	4.1624	3.6119	-3.68	-
10.71	795	212 Shell-Thick	INVS LU Combination	4.3850	3.7322	-3.68	-
10.71	795	212 Shell-Thick	INVS LU Combination	4.8129	4.0759	-3.95	-
1.92	796	213 Shell-Thick	INVS LE Combination	5.5016	4.2116	-0.31	-
1.92	796	213 Shell-Thick	INVS LE Combination	4.8857	3.5649	-0.29	-
1.93	796	213 Shell-Thick	INVS LE Combination	4.9420	3.5900	-0.29	-
1.93	796	213 Shell-Thick	INVS LE Combination	5.5562	4.2379	-0.31	-
4.80	796	213 Shell-Thick	INVS LE Combination	3.5313	3.0133	-0.49	-
4.80	796	213 Shell-Thick	INVS LE Combination	3.2037	2.7549	-0.46	-
4.83	796	213 Shell-Thick	INVS LE Combination	3.2398	2.7729	-0.46	-
4.83	796	213 Shell-Thick	INVS LE Combination	3.5660	3.0322	-0.49	-
2.59	796	213 Shell-Thick	INVS LU Combination	9.5346	6.6646	-0.42	-
2.59	796	213 Shell-Thick	INVS LU Combination	8.3286	5.2228	-0.39	-
2.61	796	213 Shell-Thick	INVS LU Combination	8.4264	5.2625	-0.39	-
2.61	796	213 Shell-Thick	INVS LU Combination	9.6300	6.7060	-0.42	-
10.70	796	213 Shell-Thick	INVS LU Combination	4.7672	4.0679	-0.85	-
10.70	796	213 Shell-Thick	INVS LU Combination	4.3250	3.7191	-0.79	-
10.76	796	213 Shell-Thick	INVS LU Combination	4.3737	3.7434	-0.79	-
10.76	796	213 Shell-Thick	INVS LU Combination	4.8141	4.0934	-0.85	-
1.93	797	214 Shell-Thick	INVS LE Combination	5.5677	4.2383	1.28	-
1.93	797	214 Shell-Thick	INVS LE Combination	4.9550	3.5945	1.20	-
1.90	797	214 Shell-Thick	INVS LE Combination	4.8106	3.5198	1.20	-
1.90	797	214 Shell-Thick	INVS LE Combination	5.4202	4.1656	1.28	-
4.83	797	214 Shell-Thick	INVS LE Combination	3.5740	3.0330	0.81	-
4.83	797	214 Shell-Thick	INVS LE Combination	3.2494	2.7756	0.77	-
4.76	797	214 Shell-Thick	INVS LE Combination	3.1572	2.7224	0.77	-
4.76	797	214 Shell-Thick	INVS LE Combination	3.4813	2.9800	0.81	-
2.61	797	214 Shell-Thick	INVS LU Combination	9.6488	6.7055	2.24	-
2.61	797	214 Shell-Thick	INVS LU Combination	8.4461	5.2707	2.09	-
2.56	797	214 Shell-Thick	INVS LU Combination	8.1952	5.1520	2.09	-
2.56	797	214 Shell-Thick	INVS LU Combination	9.3892	6.5926	2.24	-
10.76	797	214 Shell-Thick	INVS LU Combination	4.8249	4.0945	1.09	-
10.76	797	214 Shell-Thick	INVS LU Combination	4.3867	3.7471	1.03	-
10.62	797	214 Shell-Thick	INVS LU Combination	4.2622	3.6752	1.03	-
10.62	797	214 Shell-Thick	INVS LU Combination	4.6997	4.0230	1.09	-
1.90	798	215 Shell-Thick	INVS LE Combination	5.4875	4.1729	3.05	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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1.90	798	215 Shell-Thick	INVSLE Combination	4.9017	3.5442	2.87	-
1.82	798	215 Shell-Thick	INVSLE Combination	4.5552	3.3702	2.87	-
1.82	798	215 Shell-Thick	INVSLE Combination	5.1362	4.0021	3.05	-
4.77	798	215 Shell-Thick	INVSLE Combination	3.5295	2.9874	1.93	-
4.77	798	215 Shell-Thick	INVSLE Combination	3.2211	2.7374	1.83	-
4.61	798	215 Shell-Thick	INVSLE Combination	2.9994	2.6133	1.83	-
4.61	798	215 Shell-Thick	INVSLE Combination	3.3081	2.8630	1.93	-
2.56	798	215 Shell-Thick	INVSLE Combination	9.4955	6.5995	5.36	-
2.56	798	215 Shell-Thick	INVSLE Combination	8.3417	5.1956	4.99	-
2.45	798	215 Shell-Thick	INVSLE Combination	7.7400	4.9197	4.99	-
2.45	798	215 Shell-Thick	INVSLE Combination	8.8783	6.3339	5.36	-
10.64	798	215 Shell-Thick	INVSLE Combination	4.7649	4.0330	2.60	-
10.64	798	215 Shell-Thick	INVSLE Combination	4.3485	3.6955	2.48	-
10.32	798	215 Shell-Thick	INVSLE Combination	4.0491	3.5279	2.48	-
10.32	798	215 Shell-Thick	INVSLE Combination	4.4660	3.8650	2.60	-
1.82	799	216 Shell-Thick	INVSLE Combination	5.2584	4.0156	4.86	-
1.82	799	216 Shell-Thick	INVSLE Combination	4.7178	3.4137	4.57	-
1.69	799	216 Shell-Thick	INVSLE Combination	4.1656	3.1408	4.57	-
1.69	799	216 Shell-Thick	INVSLE Combination	4.6993	3.7472	4.86	-
4.62	799	216 Shell-Thick	INVSLE Combination	3.3948	2.8765	3.08	-
4.62	799	216 Shell-Thick	INVSLE Combination	3.1137	2.6400	2.93	-
4.37	799	216 Shell-Thick	INVSLE Combination	2.7597	2.4455	2.93	-
4.37	799	216 Shell-Thick	INVSLE Combination	3.0417	2.6813	3.08	-
2.46	799	216 Shell-Thick	INVSLE Combination	9.0731	6.3473	8.52	-
2.46	799	216 Shell-Thick	INVSLE Combination	8.0012	4.9975	7.94	-
2.28	799	216 Shell-Thick	INVSLE Combination	7.0434	4.5639	7.94	-
2.28	799	216 Shell-Thick	INVSLE Combination	8.0921	5.9288	8.52	-
10.35	799	216 Shell-Thick	INVSLE Combination	4.5830	3.8832	4.15	-
10.35	799	216 Shell-Thick	INVSLE Combination	4.2035	3.5640	3.95	-
9.84	799	216 Shell-Thick	INVSLE Combination	3.7256	3.3015	3.95	-
9.84	799	216 Shell-Thick	INVSLE Combination	4.1063	3.6198	4.15	-
1.70	800	217 Shell-Thick	INVSLE Combination	4.8666	3.7653	6.72	-
1.70	800	217 Shell-Thick	INVSLE Combination	4.3945	3.2018	6.33	-
1.53	800	217 Shell-Thick	INVSLE Combination	3.6309	2.8326	6.33	-
1.53	800	217 Shell-Thick	INVSLE Combination	4.0931	3.4025	6.72	-
4.38	800	217 Shell-Thick	INVSLE Combination	3.1606	2.6999	4.26	-
4.38	800	217 Shell-Thick	INVSLE Combination	2.9197	2.4828	4.06	-
4.05	800	217 Shell-Thick	INVSLE Combination	2.4292	2.2196	4.06	-
4.05	800	217 Shell-Thick	INVSLE Combination	2.6710	2.4360	4.26	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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2.29	800	217 Shell-Thick	INVSLU Combination	8.3587	5.9463	11.75	-	
2.29	800	217 Shell-Thick	INVSLU Combination	7.4134	4.6737	10.98	-	
2.06	800	217 Shell-Thick	INVSLU Combination	6.0908	4.0872	10.98	-	
2.06	800	217 Shell-Thick	INVSLU Combination	7.0041	5.3809	11.75	-	
9.88	800	217 Shell-Thick	INVSLU Combination	4.2668	3.6449	5.75	-	
9.88	800	217 Shell-Thick	INVSLU Combination	3.9417	3.3517	5.49	-	
9.20	800	217 Shell-Thick	INVSLU Combination	3.2794	2.9965	5.49	-	
9.20	800	217 Shell-Thick	INVSLU Combination	3.6059	3.2886	5.75	-	
1.53	801	218 Shell-Thick	INVSLE Combination	4.2981	3.4235	8.64	-	
1.53	801	218 Shell-Thick	INVSLE Combination	3.9127	2.9089	8.17	-	
1.33	801	218 Shell-Thick	INVSLE Combination	2.9296	2.4447	8.17	-	
1.33	801	218 Shell-Thick	INVSLE Combination	3.3013	2.9682	8.64	-	
4.07	801	218 Shell-Thick	INVSLE Combination	2.8154	2.4582	5.49	-	
4.07	801	218 Shell-Thick	INVSLE Combination	2.6256	2.2656	5.26	-	
3.65	801	218 Shell-Thick	INVSLE Combination	1.9923	1.9357	5.26	-	
3.65	801	218 Shell-Thick	INVSLE Combination	2.1826	2.1279	5.49	-	
2.07	801	218 Shell-Thick	INVSLU Combination	7.3330	5.3995	15.09	-	
2.07	801	218 Shell-Thick	INVSLU Combination	6.5473	4.2258	14.13	-	
1.79	801	218 Shell-Thick	INVSLU Combination	4.8480	3.4867	14.13	-	
1.79	801	218 Shell-Thick	INVSLU Combination	5.5913	4.6883	15.09	-	
9.25	801	218 Shell-Thick	INVSLU Combination	3.8009	3.3185	7.42	-	
9.25	801	218 Shell-Thick	INVSLU Combination	3.5445	3.0586	7.10	-	
9.25	801	218 Shell-Thick	INVSLU Combination	2.6897	2.6132	7.10	-	
8.41	801	218 Shell-Thick	INVSLU Combination	2.9465	2.8726	7.42	-	
8.41	801	218 Shell-Thick	INVSLU Combination	2.9465	2.8726	7.42	-	
1.34	802	219 Shell-Thick	INVSLE Combination	3.5274	2.9891	10.65	-	
1.34	802	219 Shell-Thick	INVSLE Combination	3.2508	2.5333	10.10	-	
1.10	802	219 Shell-Thick	INVSLE Combination	2.0381	1.9805	10.10	-	
1.10	802	219 Shell-Thick	INVSLE Combination	2.2959	2.4486	10.65	-	
1.10	802	219 Shell-Thick	INVSLE Combination	2.3411	2.1516	6.79	-	
3.68	802	219 Shell-Thick	INVSLE Combination	2.2143	1.9881	6.52	-	
3.68	802	219 Shell-Thick	INVSLE Combination	2.2143	1.9881	6.52	-	
3.19	802	219 Shell-Thick	INVSLE Combination	1.4306	1.5955	6.52	-	
3.19	802	219 Shell-Thick	INVSLE Combination	1.5564	1.7595	6.79	-	
3.19	802	219 Shell-Thick	INVSLU Combination	5.9559	4.7035	18.56	-	
1.80	802	219 Shell-Thick	INVSLU Combination	5.3726	3.6494	17.42	-	
1.80	802	219 Shell-Thick	INVSLU Combination	5.3726	3.6494	17.42	-	
1.48	802	219 Shell-Thick	INVSLU Combination	3.2815	2.7685	17.42	-	
1.48	802	219 Shell-Thick	INVSLU Combination	3.8096	3.8590	18.56	-	
1.48	802	219 Shell-Thick	INVSLU Combination	3.8096	3.8590	18.56	-	
8.47	802	219 Shell-Thick	INVSLU Combination	3.1604	2.9046	9.17	-	
8.47	802	219 Shell-Thick	INVSLU Combination	2.9893	2.6839	8.81	-	
8.47	802	219 Shell-Thick	INVSLU Combination	2.9893	2.6839	8.81	-	
7.48	802	219 Shell-Thick	INVSLU Combination	1.9313	2.1540	8.81	-	

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7.48	802	219 Shell-Thick	INVS LU Combination	2.1011	2.3754	9.17	-
1.11	803	220 Shell-Thick	INVS LE Combination	2.5272	2.4659	12.77	-
1.11	803	220 Shell-Thick	INVS LE Combination	2.3764	2.0771	12.15	-
0.86	803	220 Shell-Thick	INVS LE Combination	0.9211	1.4405	12.15	-
0.86	803	220 Shell-Thick	INVS LE Combination	1.0469	1.8459	12.77	-
3.22	803	220 Shell-Thick	INVS LE Combination	1.7159	1.7821	8.17	-
3.22	803	220 Shell-Thick	INVS LE Combination	1.6617	1.6510	7.88	-
2.68	803	220 Shell-Thick	INVS LE Combination	0.7179	1.2011	7.88	-
2.68	803	220 Shell-Thick	INVS LE Combination	0.7689	1.3342	8.17	-
1.50	803	220 Shell-Thick	INVS LU Combination	4.1878	3.8656	22.18	-
1.50	803	220 Shell-Thick	INVS LU Combination	3.8393	2.9491	20.90	-
1.15	803	220 Shell-Thick	INVS LU Combination	1.3373	1.9807	20.90	-
1.15	803	220 Shell-Thick	INVS LU Combination	1.6159	2.8934	22.18	-
7.55	803	220 Shell-Thick	INVS LU Combination	2.3164	2.4059	11.03	-
7.55	803	220 Shell-Thick	INVS LU Combination	2.2433	2.2289	10.64	-
6.42	803	220 Shell-Thick	INVS LU Combination	0.9691	1.6215	10.64	-
6.42	803	220 Shell-Thick	INVS LU Combination	1.0380	1.8012	11.03	-
0.87	804	221 Shell-Thick	INVS LE Combination	1.2580	1.8552	15.01	-
0.87	804	221 Shell-Thick	INVS LE Combination	1.2521	1.5397	14.35	-
0.61	804	221 Shell-Thick	INVS LE Combination	-0.1766	0.8322	14.35	-
0.61	804	221 Shell-Thick	INVS LE Combination	-0.2110	1.1696	15.01	-
2.72	804	221 Shell-Thick	INVS LE Combination	0.9108	1.3524	9.65	-
2.72	804	221 Shell-Thick	INVS LE Combination	0.9388	1.2555	9.35	-
2.14	804	221 Shell-Thick	INVS LE Combination	-0.4605	0.7570	9.35	-
2.14	804	221 Shell-Thick	INVS LE Combination	-0.4878	0.8581	9.65	-
1.17	804	221 Shell-Thick	INVS LU Combination	1.9686	2.8844	26.00	-
1.17	804	221 Shell-Thick	INVS LU Combination	1.8932	2.1214	24.59	-
0.82	804	221 Shell-Thick	INVS LU Combination	-0.2384	1.1347	24.59	-
0.82	804	221 Shell-Thick	INVS LU Combination	-0.2849	1.8074	26.00	-
6.51	804	221 Shell-Thick	INVS LU Combination	1.2296	1.8257	13.02	-
6.51	804	221 Shell-Thick	INVS LU Combination	1.2674	1.6949	12.62	-
5.27	804	221 Shell-Thick	INVS LU Combination	-1.0417	0.9861	12.62	-
5.27	804	221 Shell-Thick	INVS LU Combination	-1.0543	1.1584	13.02	-
0.62	805	222 Shell-Thick	INVS LE Combination	-0.1081	1.1653	17.40	-
0.62	805	222 Shell-Thick	INVS LE Combination	0.0078	0.9269	16.72	-
0.37	805	222 Shell-Thick	INVS LE Combination	-1.2926	0.2694	16.72	-
0.37	805	222 Shell-Thick	INVS LE Combination	-1.4192	0.4278	17.40	-
2.18	805	222 Shell-Thick	INVS LE Combination	-0.3243	0.8677	11.23	-
2.18	805	222 Shell-Thick	INVS LE Combination	-0.1721	0.8048	10.94	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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2.93	807	224 Shell-Thick	INVSLU Combination	-7.2390	-1.0371	19.69	-	
1.58	807	224 Shell-Thick	INVSLU Combination	-11.6412	-2.3695	19.69	-	
1.58	807	224 Shell-Thick	INVSLU Combination	-12.7023	-2.0127	19.93	-	
02	808	225 Shell-Thick	INVSLE Combination	-5.0170	-0.8479	26.35	-3.142E-	
02	808	225 Shell-Thick	INVSLE Combination	-4.6322	-0.8268	25.80	-3.142E-	
0.12	808	225 Shell-Thick	INVSLE Combination	-7.6665	-1.5827	25.80		
0.12	808	225 Shell-Thick	INVSLE Combination	-8.0684	-1.5643	26.35		
0.60	808	225 Shell-Thick	INVSLE Combination	-7.7045	-1.3148	17.27	-	
0.60	808	225 Shell-Thick	INVSLE Combination	-6.9950	-1.2940	17.20	-	
02	808	225 Shell-Thick	INVSLE Combination	-11.5759	-2.4328	17.20	5.228E-	
02	808	225 Shell-Thick	INVSLE Combination	-12.3311	-2.3486	17.27	5.228E-	
02	808	225 Shell-Thick	INVSLE Combination	-6.7729	-1.1446	44.95	-4.242E-	
02	808	225 Shell-Thick	INVSLE Combination	-6.2535	-1.1161	43.41	-4.242E-	
0.27	808	225 Shell-Thick	INVSLE Combination	-10.3498	-2.1366	43.41		
0.27	808	225 Shell-Thick	INVSLE Combination	-10.8923	-2.1118	44.95		
1.75	808	225 Shell-Thick	INVSLE Combination	-13.2057	-2.2705	23.31	-	
1.75	808	225 Shell-Thick	INVSLE Combination	-11.8316	-2.2504	23.23	-	
02	808	225 Shell-Thick	INVSLE Combination	-19.5783	-4.1731	23.23	7.058E-	
02	808	225 Shell-Thick	INVSLE Combination	-21.0566	-3.9538	23.31	7.058E-	
0.14	818	226 Shell-Thick	INVSLE Combination	-7.7247	-1.4755	-17.89		
0.14	818	226 Shell-Thick	INVSLE Combination	-7.1332	-1.4961	-17.62		
0.17	818	226 Shell-Thick	INVSLE Combination	-5.0636	-0.9988	-17.62	-	
0.17	818	226 Shell-Thick	INVSLE Combination	-5.6123	-1.0069	-17.89	-	
02	818	226 Shell-Thick	INVSLE Combination	-11.6072	-2.1877	-26.79	7.295E-	
02	818	226 Shell-Thick	INVSLE Combination	-10.5779	-2.2493	-25.99	7.295E-	
0.57	818	226 Shell-Thick	INVSLE Combination	-7.5193	-1.5117	-25.99	-	
0.57	818	226 Shell-Thick	INVSLE Combination	-8.4497	-1.5159	-26.79	-	
0.28	818	226 Shell-Thick	INVSLE Combination	-10.4284	-1.9919	-24.15		
0.28	818	226 Shell-Thick	INVSLE Combination	-9.6298	-2.0197	-23.78		
0.22	818	226 Shell-Thick	INVSLE Combination	-6.8359	-1.3484	-23.78	-	
0.22	818	226 Shell-Thick	INVSLE Combination	-7.5766	-1.3593	-24.15	-	
02	818	226 Shell-Thick	INVSLE Combination	-19.5545	-3.6455	-45.02	9.849E-	
02	818	226 Shell-Thick	INVSLE Combination	-17.6291	-3.7912	-43.11	9.849E-	
1.39	818	226 Shell-Thick	INVSLE Combination	-12.5459	-2.5614	-43.11	-	
1.39	818	226 Shell-Thick	INVSLE Combination	-14.2578	-2.5579	-45.02	-	
0.14	819	227 Shell-Thick	INVSLE Combination	-5.3783	-0.9392	-15.73	-	
0.14	819	227 Shell-Thick	INVSLE Combination	-4.9205	-0.9911	-15.35	-	
0.47	819	227 Shell-Thick	INVSLE Combination	-3.1061	-0.4474	-15.35	-	
0.47	819	227 Shell-Thick	INVSLE Combination	-3.5327	-0.4164	-15.73	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 271 di 416
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0.50	819	227 Shell-Thick	INVSLE Combination	-8.1968	-1.4051	-23.68	-
0.50	819	227 Shell-Thick	INVSLE Combination	-7.4201	-1.5520	-22.77	-
1.30	819	227 Shell-Thick	INVSLE Combination	-4.7235	-0.7657	-22.77	-
1.30	819	227 Shell-Thick	INVSLE Combination	-5.4218	-0.6710	-23.68	-
0.19	819	227 Shell-Thick	INVSLE Combination	-7.2607	-1.2679	-21.23	-
0.19	819	227 Shell-Thick	INVSLE Combination	-6.6426	-1.3380	-20.72	-
0.64	819	227 Shell-Thick	INVSLE Combination	-4.1933	-0.6040	-20.72	-
0.64	819	227 Shell-Thick	INVSLE Combination	-4.7691	-0.5621	-21.23	-
1.23	819	227 Shell-Thick	INVSLE Combination	-13.9661	-2.3589	-39.97	-
1.23	819	227 Shell-Thick	INVSLE Combination	-12.5368	-2.7003	-37.98	-
2.98	819	227 Shell-Thick	INVSLE Combination	-8.0342	-1.4173	-37.98	-
2.98	819	227 Shell-Thick	INVSLE Combination	-9.2888	-1.1921	-39.97	-
0.45	820	228 Shell-Thick	INVSLE Combination	-3.4668	-0.3826	-13.74	-
0.45	820	228 Shell-Thick	INVSLE Combination	-3.1495	-0.4767	-13.29	-
0.84	820	228 Shell-Thick	INVSLE Combination	-1.5684	0.0771	-13.29	-
0.84	820	228 Shell-Thick	INVSLE Combination	-1.8642	0.1571	-13.74	-
1.23	820	228 Shell-Thick	INVSLE Combination	-5.3841	-0.6069	-20.80	-
1.23	820	228 Shell-Thick	INVSLE Combination	-4.8586	-0.8493	-19.84	-
2.07	820	228 Shell-Thick	INVSLE Combination	-2.4952	-0.0596	-19.84	-
2.07	820	228 Shell-Thick	INVSLE Combination	-2.9604	0.1427	-20.80	-
0.61	820	228 Shell-Thick	INVSLE Combination	-4.6801	-0.5165	-18.55	-
0.61	820	228 Shell-Thick	INVSLE Combination	-4.2519	-0.6435	-17.95	-
1.14	820	228 Shell-Thick	INVSLE Combination	-2.1173	0.1041	-17.95	-
1.14	820	228 Shell-Thick	INVSLE Combination	-2.5167	0.2121	-18.55	-
2.84	820	228 Shell-Thick	INVSLE Combination	-9.3089	-1.0661	-35.26	-
2.84	820	228 Shell-Thick	INVSLE Combination	-8.3570	-1.6119	-33.26	-
4.59	820	228 Shell-Thick	INVSLE Combination	-4.3925	-0.3394	-33.26	-
4.59	820	228 Shell-Thick	INVSLE Combination	-5.2042	0.1133	-35.26	-
0.82	821	229 Shell-Thick	INVSLE Combination	-1.9169	0.1729	-11.91	-
0.82	821	229 Shell-Thick	INVSLE Combination	-1.7352	0.0237	-11.44	-
1.24	821	229 Shell-Thick	INVSLE Combination	-0.3668	0.5875	-11.44	-
1.24	821	229 Shell-Thick	INVSLE Combination	-0.5350	0.8998	-11.91	-
2.02	821	229 Shell-Thick	INVSLE Combination	-3.0728	0.1666	-18.14	-
2.02	821	229 Shell-Thick	INVSLE Combination	-2.7822	-0.1696	-17.18	-
2.86	821	229 Shell-Thick	INVSLE Combination	-0.7256	0.5610	-17.18	-
2.86	821	229 Shell-Thick	INVSLE Combination	-0.9706	0.6952	-18.14	-
1.11	821	229 Shell-Thick	INVSLE Combination	-2.5878	0.2343	-16.09	-
1.11	821	229 Shell-Thick	INVSLE Combination	-2.3425	0.0320	-15.44	-
1.67	821	229 Shell-Thick	INVSLE Combination	-0.4951	0.7970	-15.44	-

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1.67	821	229 Shell-Thick	INVSLU Combination	-0.7223	1.3188	-16.09	-	
4.46	821	229 Shell-Thick	INVSLU Combination	-5.4390	0.1857	-30.87	-	
4.46	821	229 Shell-Thick	INVSLU Combination	-4.9254	-0.5653	-28.92	-	
6.16	821	229 Shell-Thick	INVSLU Combination	-1.4602	0.6415	-28.92	-	
6.16	821	229 Shell-Thick	INVSLU Combination	-1.8623	0.9385	-30.87	-	
1.22	822	230 Shell-Thick	INVSLE Combination	-0.6652	0.9061	-10.24	-	
1.22	822	230 Shell-Thick	INVSLE Combination	-0.6098	0.4936	-9.76	-	
1.64	822	230 Shell-Thick	INVSLE Combination	0.6706	1.1674	-9.76	-	
1.64	822	230 Shell-Thick	INVSLE Combination	0.6282	1.5880	-10.24	-	
2.80	822	230 Shell-Thick	INVSLE Combination	-1.1792	0.6880	-15.67	-	
2.80	822	230 Shell-Thick	INVSLE Combination	-1.1038	0.4638	-14.74	-	
3.61	822	230 Shell-Thick	INVSLE Combination	0.5647	0.9960	-14.74	-	
3.61	822	230 Shell-Thick	INVSLE Combination	0.5163	1.1860	-15.67	-	
1.65	822	230 Shell-Thick	INVSLE Combination	-0.8981	1.3525	-13.83	-	
1.65	822	230 Shell-Thick	INVSLE Combination	-0.8232	0.6663	-13.18	-	
2.21	822	230 Shell-Thick	INVSLE Combination	0.9211	1.6017	-13.18	-	
2.21	822	230 Shell-Thick	INVSLE Combination	0.8649	2.4109	-13.83	-	
6.05	822	230 Shell-Thick	INVSLE Combination	-2.2312	0.9288	-26.78	-	
6.05	822	230 Shell-Thick	INVSLE Combination	-2.1151	0.4030	-24.94	-	
7.65	822	230 Shell-Thick	INVSLE Combination	0.7624	1.3446	-24.94	-	
7.65	822	230 Shell-Thick	INVSLE Combination	0.6969	1.6010	-26.78	-	
1.62	823	231 Shell-Thick	INVSLE Combination	0.3635	1.5781	-8.70	-	
1.62	823	231 Shell-Thick	INVSLE Combination	0.2836	1.0402	-8.25	-	
2.02	823	231 Shell-Thick	INVSLE Combination	1.7636	1.6729	-8.25	-	
2.02	823	231 Shell-Thick	INVSLE Combination	1.9002	2.1957	-8.70	-	
3.57	823	231 Shell-Thick	INVSLE Combination	0.3397	1.1680	-13.38	-	
3.57	823	231 Shell-Thick	INVSLE Combination	0.2502	0.9223	-12.52	-	
4.32	823	231 Shell-Thick	INVSLE Combination	1.2806	1.3770	-12.52	-	
4.32	823	231 Shell-Thick	INVSLE Combination	1.3390	1.6214	-13.38	-	
2.19	823	231 Shell-Thick	INVSLE Combination	0.4943	2.4176	-11.75	-	
2.19	823	231 Shell-Thick	INVSLE Combination	0.3828	1.4220	-11.13	-	
2.73	823	231 Shell-Thick	INVSLE Combination	2.7525	2.3028	-11.13	-	
2.73	823	231 Shell-Thick	INVSLE Combination	3.0490	3.3711	-11.75	-	
7.55	823	231 Shell-Thick	INVSLE Combination	0.4122	1.5769	-22.95	-	
7.55	823	231 Shell-Thick	INVSLE Combination	0.1818	1.2452	-21.27	-	
9.02	823	231 Shell-Thick	INVSLE Combination	1.7288	1.8590	-21.27	-	
9.02	823	231 Shell-Thick	INVSLE Combination	1.8076	2.1889	-22.95	-	
2.01	824	232 Shell-Thick	INVSLE Combination	1.6139	2.1759	-7.29	-	
2.01	824	232 Shell-Thick	INVSLE Combination	1.3352	1.5497	-6.86	-	

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 273 di 416
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2.38	824	232 Shell-Thick	INVSLE Combination	2.6066	2.1042	-6.86	-
2.38	824	232 Shell-Thick	INVSLE Combination	2.9005	2.7205	-7.29	-
4.28	824	232 Shell-Thick	INVSLE Combination	1.1423	1.5975	-11.25	-
4.28	824	232 Shell-Thick	INVSLE Combination	0.9883	1.3032	-10.47	-
4.96	824	232 Shell-Thick	INVSLE Combination	1.8222	1.7026	-10.47	-
4.96	824	232 Shell-Thick	INVSLE Combination	1.9750	1.9978	-11.25	-
2.71	824	232 Shell-Thick	INVSLE Combination	2.5793	3.3598	-9.84	-
2.71	824	232 Shell-Thick	INVSLE Combination	2.0453	2.1291	-9.27	-
3.21	824	232 Shell-Thick	INVSLE Combination	4.2123	2.9262	-9.27	-
3.21	824	232 Shell-Thick	INVSLE Combination	4.7950	4.1998	-9.84	-
8.93	824	232 Shell-Thick	INVSLE Combination	1.5421	2.1566	-19.35	-
8.93	824	232 Shell-Thick	INVSLE Combination	1.3342	1.7593	-17.86	-
10.25	824	232 Shell-Thick	INVSLE Combination	2.4599	2.2985	-17.86	-
10.25	824	232 Shell-Thick	INVSLE Combination	2.6663	2.6971	-19.35	-
2.36	825	233 Shell-Thick	INVSLE Combination	2.6162	2.6956	-5.97	-
2.36	825	233 Shell-Thick	INVSLE Combination	2.2000	1.9909	-5.60	-
2.69	825	233 Shell-Thick	INVSLE Combination	3.2448	2.4595	-5.60	-
2.69	825	233 Shell-Thick	INVSLE Combination	3.6704	3.1583	-5.97	-
4.93	825	233 Shell-Thick	INVSLE Combination	1.7770	1.9715	-9.25	-
4.93	825	233 Shell-Thick	INVSLE Combination	1.5415	1.6332	-8.58	-
5.51	825	233 Shell-Thick	INVSLE Combination	2.2242	1.9720	-8.58	-
5.51	825	233 Shell-Thick	INVSLE Combination	2.4564	2.3126	-9.25	-
3.19	825	233 Shell-Thick	INVSLE Combination	4.3340	4.1779	-8.06	-
3.19	825	233 Shell-Thick	INVSLE Combination	3.5479	2.7414	-7.56	-
3.63	825	233 Shell-Thick	INVSLE Combination	5.3341	3.4574	-7.56	-
3.63	825	233 Shell-Thick	INVSLE Combination	6.1553	4.8892	-8.06	-
10.17	825	233 Shell-Thick	INVSLE Combination	2.3990	2.6616	-15.96	-
10.17	825	233 Shell-Thick	INVSLE Combination	2.0810	2.2048	-14.67	-
11.30	825	233 Shell-Thick	INVSLE Combination	3.0026	2.6622	-14.67	-
11.30	825	233 Shell-Thick	INVSLE Combination	3.3162	3.1221	-15.96	-
2.68	826	234 Shell-Thick	INVSLE Combination	3.4103	3.1323	-4.73	-
2.68	826	234 Shell-Thick	INVSLE Combination	2.8796	2.3604	-4.42	-
2.95	826	234 Shell-Thick	INVSLE Combination	3.7108	2.7418	-4.42	-
2.95	826	234 Shell-Thick	INVSLE Combination	4.2464	3.5106	-4.73	-
5.49	826	234 Shell-Thick	INVSLE Combination	2.2734	2.2869	-7.36	-
5.49	826	234 Shell-Thick	INVSLE Combination	1.9707	1.9104	-6.80	-
5.97	826	234 Shell-Thick	INVSLE Combination	2.5120	2.1863	-6.80	-
5.97	826	234 Shell-Thick	INVSLE Combination	2.8104	2.5658	-7.36	-
3.61	826	234 Shell-Thick	INVSLE Combination	5.7373	4.8627	-6.39	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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3.61	826	234 Shell-Thick	INVS LU Combination	4.7402	3.2815	-5.97	-
3.98	826	234 Shell-Thick	INVS LU Combination	6.1648	3.8790	-5.97	-
3.98	826	234 Shell-Thick	INVS LU Combination	7.1857	5.4447	-6.39	-
11.24	826	234 Shell-Thick	INVS LU Combination	3.0691	3.0873	-12.73	-
11.24	826	234 Shell-Thick	INVS LU Combination	2.6604	2.5791	-11.67	-
12.17	826	234 Shell-Thick	INVS LU Combination	3.3912	2.9515	-11.67	-
12.17	826	234 Shell-Thick	INVS LU Combination	3.7940	3.4638	-12.73	-
2.94	827	235 Shell-Thick	INVS LE Combination	4.0234	3.4865	-3.56	-
2.94	827	235 Shell-Thick	INVS LE Combination	3.4056	2.6603	-3.32	-
3.15	827	235 Shell-Thick	INVS LE Combination	4.0331	2.9517	-3.32	-
3.15	827	235 Shell-Thick	INVS LE Combination	4.6530	3.7768	-3.56	-
5.95	827	235 Shell-Thick	INVS LE Combination	2.6531	2.5429	-5.55	-
5.95	827	235 Shell-Thick	INVS LE Combination	2.2991	2.1352	-5.12	-
6.33	827	235 Shell-Thick	INVS LE Combination	2.7067	2.3464	-5.12	-
6.33	827	235 Shell-Thick	INVS LE Combination	3.0563	2.7572	-5.55	-
3.97	827	235 Shell-Thick	INVS LU Combination	6.8284	5.4180	-4.81	-
3.97	827	235 Shell-Thick	INVS LU Combination	5.6705	3.7353	-4.48	-
4.25	827	235 Shell-Thick	INVS LU Combination	6.7482	4.1908	-4.48	-
4.25	827	235 Shell-Thick	INVS LU Combination	7.9213	5.8637	-4.81	-
12.12	827	235 Shell-Thick	INVS LU Combination	3.5817	3.4329	-9.63	-
12.12	827	235 Shell-Thick	INVS LU Combination	3.1038	2.8825	-8.80	-
12.84	827	235 Shell-Thick	INVS LU Combination	3.6541	3.1677	-8.80	-
12.84	827	235 Shell-Thick	INVS LU Combination	4.1260	3.7223	-9.63	-
3.14	828	236 Shell-Thick	INVS LE Combination	4.4811	3.7570	-2.44	-
3.14	828	236 Shell-Thick	INVS LE Combination	3.7978	2.8901	-2.27	-
3.29	828	236 Shell-Thick	INVS LE Combination	4.2294	3.0922	-2.27	-
3.29	828	236 Shell-Thick	INVS LE Combination	4.9127	3.9592	-2.44	-
6.31	828	236 Shell-Thick	INVS LE Combination	2.9343	2.7389	-3.82	-
6.31	828	236 Shell-Thick	INVS LE Combination	2.5426	2.3075	-3.51	-
6.58	828	236 Shell-Thick	INVS LE Combination	2.8224	2.4540	-3.51	-
6.58	828	236 Shell-Thick	INVS LE Combination	3.2102	2.8881	-3.82	-
4.24	828	236 Shell-Thick	INVS LU Combination	7.6473	5.8408	-3.30	-
4.24	828	236 Shell-Thick	INVS LU Combination	6.3672	4.0826	-3.07	-
4.45	828	236 Shell-Thick	INVS LU Combination	7.1095	4.3986	-3.07	-
4.45	828	236 Shell-Thick	INVS LU Combination	8.3976	6.1517	-3.30	-
12.80	828	236 Shell-Thick	INVS LU Combination	3.9613	3.6976	-6.62	-
12.80	828	236 Shell-Thick	INVS LU Combination	3.4325	3.1152	-6.05	-
13.31	828	236 Shell-Thick	INVS LU Combination	3.8102	3.3129	-6.05	-
13.31	828	236 Shell-Thick	INVS LU Combination	4.3338	3.8989	-6.62	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 275 di 416
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3.29	829	237 Shell-Thick	INVSLE Combination	4.7974	3.9453	-1.36	-
3.29	829	237 Shell-Thick	INVSLE Combination	4.0747	3.0521	-1.26	-
3.37	829	237 Shell-Thick	INVSLE Combination	4.3154	3.1641	-1.26	-
3.37	829	237 Shell-Thick	INVSLE Combination	5.0369	4.0582	-1.36	-
6.57	829	237 Shell-Thick	INVSLE Combination	3.1286	2.8755	-2.12	-
6.57	829	237 Shell-Thick	INVSLE Combination	2.7141	2.4285	-1.95	-
6.72	829	237 Shell-Thick	INVSLE Combination	2.8700	2.5099	-1.95	-
6.72	829	237 Shell-Thick	INVSLE Combination	3.2816	2.9588	-2.12	-
4.44	829	237 Shell-Thick	INVSLE Combination	8.2133	6.1350	-1.84	-
4.44	829	237 Shell-Thick	INVSLE Combination	6.8596	4.3285	-1.71	-
4.56	829	237 Shell-Thick	INVSLE Combination	7.2740	4.5034	-1.71	-
4.56	829	237 Shell-Thick	INVSLE Combination	8.6300	6.3085	-1.84	-
13.29	829	237 Shell-Thick	INVSLE Combination	4.2236	3.8820	-3.69	-
13.29	829	237 Shell-Thick	INVSLE Combination	3.6641	3.2785	-3.37	-
13.57	829	237 Shell-Thick	INVSLE Combination	3.8745	3.3883	-3.37	-
13.57	829	237 Shell-Thick	INVSLE Combination	4.4302	3.9944	-3.69	-
3.37	830	238 Shell-Thick	INVSLE Combination	4.9857	4.0513	-0.29	-
3.37	830	238 Shell-Thick	INVSLE Combination	4.2441	3.1465	-0.27	-
3.39	830	238 Shell-Thick	INVSLE Combination	4.2969	3.1691	-0.27	-
3.39	830	238 Shell-Thick	INVSLE Combination	5.0364	4.0752	-0.29	-
6.72	830	238 Shell-Thick	INVSLE Combination	3.2450	2.9529	-0.46	-
6.72	830	238 Shell-Thick	INVSLE Combination	2.8206	2.4986	-0.42	-
6.75	830	238 Shell-Thick	INVSLE Combination	2.8548	2.5150	-0.42	-
6.75	830	238 Shell-Thick	INVSLE Combination	3.2776	2.9703	-0.46	-
4.55	830	238 Shell-Thick	INVSLE Combination	8.5487	6.2998	-0.40	-
4.55	830	238 Shell-Thick	INVSLE Combination	7.1581	4.4727	-0.37	-
4.58	830	238 Shell-Thick	INVSLE Combination	7.2490	4.5078	-0.37	-
4.58	830	238 Shell-Thick	INVSLE Combination	8.6366	6.3369	-0.40	-
13.56	830	238 Shell-Thick	INVSLE Combination	4.3807	3.9864	-0.79	-
13.56	830	238 Shell-Thick	INVSLE Combination	3.8078	3.3731	-0.72	-
13.63	830	238 Shell-Thick	INVSLE Combination	3.8539	3.3953	-0.72	-
13.63	830	238 Shell-Thick	INVSLE Combination	4.4248	4.0099	-0.79	-
3.39	831	239 Shell-Thick	INVSLE Combination	5.0486	4.0757	1.20	-
3.39	831	239 Shell-Thick	INVSLE Combination	4.3135	3.1743	1.11	-
3.34	831	239 Shell-Thick	INVSLE Combination	4.1790	3.1073	1.11	-
3.34	831	239 Shell-Thick	INVSLE Combination	4.9113	4.0105	1.20	-
6.75	831	239 Shell-Thick	INVSLE Combination	3.2865	2.9712	0.77	-
6.75	831	239 Shell-Thick	INVSLE Combination	2.8665	2.5183	0.71	-
6.67	831	239 Shell-Thick	INVSLE Combination	2.7795	2.4697	0.71	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 276 di 416
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6.67	831	239 Shell-Thick	INVSLE Combination	3.1993	2.9227	0.77	-	
4.58	831	239 Shell-Thick	INVSLU Combination	8.6556	6.3366	2.09	-	
4.58	831	239 Shell-Thick	INVSLU Combination	7.2754	4.5172	1.91	-	
4.52	831	239 Shell-Thick	INVSLU Combination	7.0437	4.4124	1.91	-	
4.52	831	239 Shell-Thick	INVSLU Combination	8.4159	6.2372	2.09	-	
13.63	831	239 Shell-Thick	INVSLU Combination	4.4368	4.0111	1.04	-	
13.63	831	239 Shell-Thick	INVSLU Combination	3.8698	3.3997	0.96	-	
13.47	831	239 Shell-Thick	INVSLU Combination	3.7523	3.3341	0.96	-	
13.47	831	239 Shell-Thick	INVSLU Combination	4.3190	3.9457	1.04	-	
3.35	832	240 Shell-Thick	INVSLE Combination	4.9888	4.0183	2.88	-	
3.35	832	240 Shell-Thick	INVSLE Combination	4.2803	3.1353	2.65	-	
3.23	832	240 Shell-Thick	INVSLE Combination	3.9569	2.9784	2.65	-	
3.23	832	240 Shell-Thick	INVSLE Combination	4.6616	3.8638	2.88	-	
6.68	832	240 Shell-Thick	INVSLE Combination	3.2541	2.9303	1.84	-	
6.68	832	240 Shell-Thick	INVSLE Combination	2.8509	2.4874	1.71	-	
6.47	832	240 Shell-Thick	INVSLE Combination	2.6415	2.3738	1.71	-	
6.47	832	240 Shell-Thick	INVSLE Combination	3.0456	2.8160	1.84	-	
4.52	832	240 Shell-Thick	INVSLU Combination	8.5398	6.2453	5.00	-	
4.52	832	240 Shell-Thick	INVSLU Combination	7.2061	4.4616	4.57	-	
4.37	832	240 Shell-Thick	INVSLU Combination	6.6495	4.2161	4.57	-	
4.37	832	240 Shell-Thick	INVSLU Combination	7.9697	6.0086	5.00	-	
13.49	832	240 Shell-Thick	INVSLU Combination	4.3930	3.9559	2.48	-	
13.49	832	240 Shell-Thick	INVSLU Combination	3.8488	3.3580	2.31	-	
13.11	832	240 Shell-Thick	INVSLU Combination	3.5660	3.2046	2.31	-	
13.11	832	240 Shell-Thick	INVSLU Combination	4.1115	3.8016	2.48	-	
3.24	833	241 Shell-Thick	INVSLE Combination	4.7983	3.8779	4.59	-	
3.24	833	241 Shell-Thick	INVSLE Combination	4.1414	3.0285	4.22	-	
3.06	833	241 Shell-Thick	INVSLE Combination	3.6254	2.7821	4.22	-	
3.06	833	241 Shell-Thick	INVSLE Combination	4.2768	3.6351	4.59	-	
6.49	833	241 Shell-Thick	INVSLE Combination	3.1427	2.8297	2.94	-	
6.49	833	241 Shell-Thick	INVSLE Combination	2.7708	2.4053	2.73	-	
6.17	833	241 Shell-Thick	INVSLE Combination	2.4360	2.2268	2.73	-	
6.17	833	241 Shell-Thick	INVSLE Combination	2.8096	2.6499	2.94	-	
4.37	833	241 Shell-Thick	INVSLU Combination	8.1873	6.0236	7.96	-	
4.37	833	241 Shell-Thick	INVSLU Combination	6.9469	4.3040	7.28	-	
4.13	833	241 Shell-Thick	INVSLU Combination	6.0599	3.9189	7.28	-	
4.13	833	241 Shell-Thick	INVSLU Combination	7.2801	5.6517	7.96	-	
13.14	833	241 Shell-Thick	INVSLU Combination	4.2426	3.8201	3.96	-	
13.14	833	241 Shell-Thick	INVSLU Combination	3.7406	3.2472	3.69	-	

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 277 di 416
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12.54	833	241 Shell-Thick	INVS LU Combination	3.2886	3.0062	3.69	-	
12.54	833	241 Shell-Thick	INVS LU Combination	3.7930	3.5774	3.96	-	
3.07	834	242 Shell-Thick	INVS LE Combination	4.4684	3.6543	6.35	-	
3.07	834	242 Shell-Thick	INVS LE Combination	3.8840	2.8529	5.86	-	
2.83	834	242 Shell-Thick	INVS LE Combination	3.1691	2.5164	5.86	-	
2.83	834	242 Shell-Thick	INVS LE Combination	3.7456	3.3229	6.35	-	
6.19	834	242 Shell-Thick	INVS LE Combination	2.9450	2.6688	4.07	-	
6.19	834	242 Shell-Thick	INVS LE Combination	2.6172	2.2712	3.80	-	
5.77	834	242 Shell-Thick	INVS LE Combination	2.1524	2.0278	3.80	-	
5.77	834	242 Shell-Thick	INVS LE Combination	2.4821	2.4240	4.07	-	
4.15	834	242 Shell-Thick	INVS LU Combination	7.5869	5.6717	11.00	-	
4.15	834	242 Shell-Thick	INVS LU Combination	6.4771	4.0437	10.07	-	
3.82	834	242 Shell-Thick	INVS LU Combination	5.2503	3.5166	10.07	-	
3.82	834	242 Shell-Thick	INVS LU Combination	6.3320	5.1629	11.00	-	
12.58	834	242 Shell-Thick	INVS LU Combination	3.9757	3.6029	5.50	-	
12.58	834	242 Shell-Thick	INVS LU Combination	3.5332	3.0661	5.13	-	
11.77	834	242 Shell-Thick	INVS LU Combination	2.9057	2.7375	5.13	-	
11.77	834	242 Shell-Thick	INVS LU Combination	3.3508	3.2723	5.50	-	
2.84	835	243 Shell-Thick	INVS LE Combination	3.9801	3.3451	8.19	-	
2.84	835	243 Shell-Thick	INVS LE Combination	3.4935	2.6059	7.58	-	
2.55	835	243 Shell-Thick	INVS LE Combination	2.5712	2.1812	7.58	-	
2.55	835	243 Shell-Thick	INVS LE Combination	3.0460	2.9280	8.19	-	
5.79	835	243 Shell-Thick	INVS LE Combination	2.6474	2.4465	5.27	-	
5.79	835	243 Shell-Thick	INVS LE Combination	2.3786	2.0835	4.93	-	
5.26	835	243 Shell-Thick	INVS LE Combination	1.7771	1.7763	4.93	-	
5.26	835	243 Shell-Thick	INVS LE Combination	2.0472	2.1383	5.27	-	
3.84	835	243 Shell-Thick	INVS LU Combination	6.7081	5.1845	14.15	-	
3.84	835	243 Shell-Thick	INVS LU Combination	5.7758	3.6753	12.99	-	
3.44	835	243 Shell-Thick	INVS LU Combination	4.1966	3.0100	12.99	-	
3.44	835	243 Shell-Thick	INVS LU Combination	5.0905	4.5444	14.15	-	
11.83	835	243 Shell-Thick	INVS LU Combination	3.5740	3.3028	7.11	-	
11.83	835	243 Shell-Thick	INVS LU Combination	3.2111	2.8127	6.66	-	
10.81	835	243 Shell-Thick	INVS LU Combination	2.3991	2.3980	6.66	-	
10.81	835	243 Shell-Thick	INVS LU Combination	2.7637	2.8867	7.11	-	
2.56	836	244 Shell-Thick	INVS LE Combination	3.3120	2.9505	10.12	-	
2.56	836	244 Shell-Thick	INVS LE Combination	2.9451	2.2867	9.40	-	
2.22	836	244 Shell-Thick	INVS LE Combination	1.8040	1.7744	9.40	-	
2.22	836	244 Shell-Thick	INVS LE Combination	2.1540	2.4492	10.12	-	
5.29	836	244 Shell-Thick	INVS LE Combination	2.2331	2.1625	6.54	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 278 di 416
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5.29	836	244 Shell-Thick	INVSLE Combination	2.0366	1.8412	6.14	-	
4.66	836	244 Shell-Thick	INVSLE Combination	1.2899	1.4719	6.14	-	
4.66	836	244 Shell-Thick	INVSLE Combination	1.4861	1.7931	6.54	-	
3.46	836	244 Shell-Thick	INVSLE Combination	5.5204	4.5635	17.45	-	
3.46	836	244 Shell-Thick	INVSLE Combination	4.8048	3.1985	16.07	-	
2.99	836	244 Shell-Thick	INVSLE Combination	2.8563	2.4408	16.07	-	
2.99	836	244 Shell-Thick	INVSLE Combination	3.5212	3.7920	17.45	-	
10.88	836	244 Shell-Thick	INVSLE Combination	3.0147	2.9193	8.83	-	
10.88	836	244 Shell-Thick	INVSLE Combination	2.7494	2.4856	8.29	-	
9.67	836	244 Shell-Thick	INVSLE Combination	1.7414	1.9870	8.29	-	
9.67	836	244 Shell-Thick	INVSLE Combination	2.0063	2.4207	8.83	-	
2.23	837	245 Shell-Thick	INVSLE Combination	2.4317	2.4683	12.17	-	
2.23	837	245 Shell-Thick	INVSLE Combination	2.2101	1.8920	11.36	-	
1.85	837	245 Shell-Thick	INVSLE Combination	0.8364	1.2981	11.36	-	
1.85	837	245 Shell-Thick	INVSLE Combination	1.0340	1.8902	12.17	-	
4.70	837	245 Shell-Thick	INVSLE Combination	1.6781	1.8163	7.90	-	
4.70	837	245 Shell-Thick	INVSLE Combination	1.5690	1.5429	7.46	-	
3.99	837	245 Shell-Thick	INVSLE Combination	0.6664	1.1155	7.46	-	
3.99	837	245 Shell-Thick	INVSLE Combination	0.7724	1.3907	7.90	-	
3.01	837	245 Shell-Thick	INVSLE Combination	3.9742	3.8031	20.93	-	
3.01	837	245 Shell-Thick	INVSLE Combination	3.5224	2.6065	19.34	-	
2.49	837	245 Shell-Thick	INVSLE Combination	1.1843	1.7799	19.34	-	
2.49	837	245 Shell-Thick	INVSLE Combination	1.5695	2.9126	20.93	-	
9.76	837	245 Shell-Thick	INVSLE Combination	2.2655	2.4520	10.66	-	
9.76	837	245 Shell-Thick	INVSLE Combination	2.1181	2.0830	10.07	-	
8.37	837	245 Shell-Thick	INVSLE Combination	0.8996	1.5059	10.07	-	
8.37	837	245 Shell-Thick	INVSLE Combination	1.0427	1.8775	10.66	-	
1.87	838	246 Shell-Thick	INVSLE Combination	1.3022	1.9017	14.37	-	
1.87	838	246 Shell-Thick	INVSLE Combination	1.2481	1.4227	13.48	-	
1.45	838	246 Shell-Thick	INVSLE Combination	-0.1265	0.7527	13.48	-	
1.45	838	246 Shell-Thick	INVSLE Combination	-0.1251	1.2534	14.37	-	
4.03	838	246 Shell-Thick	INVSLE Combination	0.9537	1.4095	9.36	-	
4.03	838	246 Shell-Thick	INVSLE Combination	0.9450	1.1887	8.89	-	
3.25	838	246 Shell-Thick	INVSLE Combination	-0.3752	0.7091	8.89	-	
3.25	838	246 Shell-Thick	INVSLE Combination	-0.3540	0.9346	9.36	-	
2.52	838	246 Shell-Thick	INVSLE Combination	2.0158	2.9091	24.61	-	
2.52	838	246 Shell-Thick	INVSLE Combination	1.8685	1.9557	22.86	-	
1.96	838	246 Shell-Thick	INVSLE Combination	-0.1707	1.0227	22.86	-	
1.96	838	246 Shell-Thick	INVSLE Combination	-0.1688	1.9059	24.61	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 279 di 416
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8.47	838	246 Shell-Thick	INVSLU Combination	1.2875	1.9028	12.64	-	
8.47	838	246 Shell-Thick	INVSLU Combination	1.2757	1.6047	12.01	-	
6.94	838	246 Shell-Thick	INVSLU Combination	-0.8844	0.8419	12.01	-	
6.94	838	246 Shell-Thick	INVSLU Combination	-0.8227	1.2617	12.64	-	
1.47	839	247 Shell-Thick	INVSLE Combination	0.0221	1.2515	16.73	-	
1.47	839	247 Shell-Thick	INVSLE Combination	0.1276	0.8776	15.79	-	
1.05	839	247 Shell-Thick	INVSLE Combination	-1.1279	0.2579	15.79	-	
1.05	839	247 Shell-Thick	INVSLE Combination	-1.2464	0.5490	16.73	-	
3.30	839	247 Shell-Thick	INVSLE Combination	-0.1260	0.9447	10.96	-	
3.30	839	247 Shell-Thick	INVSLE Combination	0.0116	0.7792	10.47	-	
2.48	839	247 Shell-Thick	INVSLE Combination	-1.8810	0.1457	10.47	-	
2.48	839	247 Shell-Thick	INVSLE Combination	-2.0631	0.4319	10.96	-	
1.99	839	247 Shell-Thick	INVSLU Combination	0.0298	1.8794	28.55	-	
1.99	839	247 Shell-Thick	INVSLU Combination	0.1722	1.1995	26.66	-	
1.42	839	247 Shell-Thick	INVSLU Combination	-1.5227	0.3482	26.66	-	
1.42	839	247 Shell-Thick	INVSLU Combination	-1.6826	0.7885	28.55	-	
7.05	839	247 Shell-Thick	INVSLU Combination	-0.4293	1.2754	14.79	-	
7.05	839	247 Shell-Thick	INVSLU Combination	-0.2258	1.0520	14.14	-	
5.40	839	247 Shell-Thick	INVSLU Combination	-3.4225	-0.0841	14.14	-	
5.40	839	247 Shell-Thick	INVSLU Combination	-3.7349	0.5831	14.79	-	
1.07	840	248 Shell-Thick	INVSLE Combination	-1.1614	0.5268	19.28	-	
1.07	840	248 Shell-Thick	INVSLE Combination	-0.9318	0.3180	18.32	-	
0.66	840	248 Shell-Thick	INVSLE Combination	-2.3888	-0.2297	18.32	-	
0.66	840	248 Shell-Thick	INVSLE Combination	-2.6387	-0.1063	19.28	-	
2.53	840	248 Shell-Thick	INVSLE Combination	-1.9114	0.4281	12.69	-	
2.53	840	248 Shell-Thick	INVSLE Combination	-1.5620	0.2620	12.22	-	
1.69	840	248 Shell-Thick	INVSLE Combination	-3.7467	-0.5149	12.22	-	
1.69	840	248 Shell-Thick	INVSLE Combination	-4.1543	-0.2116	12.69	-	
1.45	840	248 Shell-Thick	INVSLU Combination	-1.5679	0.7287	32.76	-	
1.45	840	248 Shell-Thick	INVSLU Combination	-1.2579	0.4293	30.79	-	
0.90	840	248 Shell-Thick	INVSLU Combination	-3.2248	-0.3102	30.79	-	
0.90	840	248 Shell-Thick	INVSLU Combination	-3.5623	-0.1435	32.76	-	
5.52	840	248 Shell-Thick	INVSLU Combination	-3.4464	0.5779	17.13	-	
5.52	840	248 Shell-Thick	INVSLU Combination	-2.8520	0.1475	16.50	-	
3.79	840	248 Shell-Thick	INVSLU Combination	-6.5264	-1.0985	16.50	-	
3.79	840	248 Shell-Thick	INVSLU Combination	-7.2567	-0.4272	17.13	-	
0.69	841	249 Shell-Thick	INVSLE Combination	-2.6528	-0.1309	22.03	-	
0.69	841	249 Shell-Thick	INVSLE Combination	-2.2925	-0.1887	21.09	-	
0.32	841	249 Shell-Thick	INVSLE Combination	-3.9704	-0.7403	21.09	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 280 di 416
0.32	841	249 Shell-Thick	INVSLE Combination	-4.3602	-0.6630	22.03	-	
1.75	841	249 Shell-Thick	INVSLE Combination	-4.1271	-0.2631	14.58	-	
1.75	841	249 Shell-Thick	INVSLE Combination	-3.5492	-0.4184	14.16	-	
0.93	841	249 Shell-Thick	INVSLE Combination	-6.0513	-1.2100	14.16	-	
0.93	841	249 Shell-Thick	INVSLE Combination	-6.7041	-1.0049	14.58	-	
0.93	841	249 Shell-Thick	INVSLE Combination	-3.5813	-0.1767	37.28	-	
0.93	841	249 Shell-Thick	INVSLE Combination	-3.0948	-0.2548	35.28	-	
0.43	841	249 Shell-Thick	INVSLE Combination	-5.3601	-0.9994	35.28	-	
0.43	841	249 Shell-Thick	INVSLE Combination	-5.8862	-0.8950	37.28	-	
3.93	841	249 Shell-Thick	INVSLE Combination	-7.1447	-0.5338	19.69	-	
3.93	841	249 Shell-Thick	INVSLE Combination	-6.1217	-0.8886	19.12	-	
2.18	841	249 Shell-Thick	INVSLE Combination	-10.3106	-2.1714	19.12	-	
2.18	841	249 Shell-Thick	INVSLE Combination	-11.5019	-1.7048	19.69	-	
0.35	842	250 Shell-Thick	INVSLE Combination	-4.6180	-0.7436	25.83	-	
0.35	842	250 Shell-Thick	INVSLE Combination	-4.0926	-0.7357	24.93	-	
0.16	842	250 Shell-Thick	INVSLE Combination	-7.0898	-1.4948	24.93	-	
0.16	842	250 Shell-Thick	INVSLE Combination	-7.6378	-1.4507	25.83	-	
1.02	842	250 Shell-Thick	INVSLE Combination	-6.9881	-1.1415	17.21	-	
1.02	842	250 Shell-Thick	INVSLE Combination	-6.0968	-1.1394	16.88	-	
02	842	250 Shell-Thick	INVSLE Combination	-10.5517	-2.2632	16.88	8.111E-	
02	842	250 Shell-Thick	INVSLE Combination	-11.4950	-2.1462	17.21	8.111E-	
0.47	842	250 Shell-Thick	INVSLE Combination	-6.2343	-1.0038	43.49	-	
0.47	842	250 Shell-Thick	INVSLE Combination	-5.5250	-0.9932	41.43	-	
0.33	842	250 Shell-Thick	INVSLE Combination	-9.5712	-2.0179	41.43	-	
0.33	842	250 Shell-Thick	INVSLE Combination	-10.3110	-1.9585	43.49	-	
2.38	842	250 Shell-Thick	INVSLE Combination	-11.8397	-1.9560	23.23	-	
2.38	842	250 Shell-Thick	INVSLE Combination	-10.1992	-1.9655	22.79	-	
0.11	842	250 Shell-Thick	INVSLE Combination	-17.6380	-3.8361	22.79	-	
0.11	842	250 Shell-Thick	INVSLE Combination	-19.3906	-3.5696	23.23	-	
0.17	852	251 Shell-Thick	INVSLE Combination	-7.1016	-1.3257	-17.61	-	
0.17	852	251 Shell-Thick	INVSLE Combination	-6.3448	-1.3636	-17.03	-	
0.41	852	251 Shell-Thick	INVSLE Combination	-4.3303	-0.8748	-17.03	-	
0.41	852	251 Shell-Thick	INVSLE Combination	-5.0356	-0.8712	-17.61	-	
02	852	251 Shell-Thick	INVSLE Combination	-10.5172	-1.9378	-25.98	9.927E-	
02	852	251 Shell-Thick	INVSLE Combination	-9.2792	-2.0215	-24.77	9.927E-	
0.88	852	251 Shell-Thick	INVSLE Combination	-6.3448	-1.3088	-24.77	-	
0.88	852	251 Shell-Thick	INVSLE Combination	-7.4748	-1.2969	-25.98	-	
0.33	852	251 Shell-Thick	INVSLE Combination	-9.5872	-1.7897	-23.78	-	
0.33	852	251 Shell-Thick	INVSLE Combination	-8.5655	-1.8408	-23.00	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 281 di 416
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0.55	852	251 Shell-Thick	INVSLU Combination	-5.8459	-1.1810	-23.00	-
0.55	852	251 Shell-Thick	INVSLU Combination	-6.7980	-1.1761	-23.78	-
0.13	852	251 Shell-Thick	INVSLU Combination	-17.5086	-3.1908	-43.10	-
0.13	852	251 Shell-Thick	INVSLU Combination	-15.2858	-3.3681	-40.60	-
1.86	852	251 Shell-Thick	INVSLU Combination	-10.4682	-2.1971	-40.60	-
1.86	852	251 Shell-Thick	INVSLU Combination	-12.4677	-2.1682	-43.10	-
0.37	853	252 Shell-Thick	INVSLE Combination	-4.8737	-0.8054	-15.36	-
0.37	853	252 Shell-Thick	INVSLE Combination	-4.3244	-0.9070	-14.68	-
0.96	853	252 Shell-Thick	INVSLE Combination	-2.5738	-0.3802	-14.68	-
0.96	853	252 Shell-Thick	INVSLE Combination	-3.0868	-0.3026	-15.36	-
0.80	853	252 Shell-Thick	INVSLE Combination	-7.3334	-1.1930	-22.78	-
0.80	853	252 Shell-Thick	INVSLE Combination	-6.4446	-1.4044	-21.49	-
1.94	853	252 Shell-Thick	INVSLE Combination	-3.8787	-0.6546	-21.49	-
1.94	853	252 Shell-Thick	INVSLE Combination	-4.6849	-0.4979	-22.78	-
0.50	853	252 Shell-Thick	INVSLE Combination	-6.5795	-1.0873	-20.73	-
0.50	853	252 Shell-Thick	INVSLE Combination	-5.8379	-1.2245	-19.82	-
1.30	853	252 Shell-Thick	INVSLE Combination	-3.4747	-0.5133	-19.82	-
1.30	853	252 Shell-Thick	INVSLE Combination	-4.1672	-0.4085	-20.73	-
1.68	853	252 Shell-Thick	INVSLE Combination	-12.3682	-1.9864	-37.99	-
1.68	853	252 Shell-Thick	INVSLE Combination	-10.7845	-2.4224	-35.43	-
3.93	853	252 Shell-Thick	INVSLE Combination	-6.5498	-1.2161	-35.43	-
3.93	853	252 Shell-Thick	INVSLE Combination	-7.9561	-0.8977	-37.99	-
0.93	854	253 Shell-Thick	INVSLE Combination	-3.0905	-0.2707	-13.31	-
0.93	854	253 Shell-Thick	INVSLE Combination	-2.7370	-0.4456	-12.59	-
1.56	854	253 Shell-Thick	INVSLE Combination	-1.2241	0.0811	-12.59	-
1.56	854	253 Shell-Thick	INVSLE Combination	-1.5536	0.2561	-13.31	-
1.86	854	253 Shell-Thick	INVSLE Combination	-4.7509	-0.4396	-19.87	-
1.86	854	253 Shell-Thick	INVSLE Combination	-4.1838	-0.7872	-18.55	-
3.01	854	253 Shell-Thick	INVSLE Combination	-1.9525	-0.0507	-18.55	-
3.01	854	253 Shell-Thick	INVSLE Combination	-2.4579	0.2403	-19.87	-
1.25	854	253 Shell-Thick	INVSLE Combination	-4.1721	-0.3654	-17.97	-
1.25	854	253 Shell-Thick	INVSLE Combination	-3.6950	-0.6015	-16.99	-
2.10	854	253 Shell-Thick	INVSLE Combination	-1.6525	0.1095	-16.99	-
2.10	854	253 Shell-Thick	INVSLE Combination	-2.0973	0.3482	-17.97	-
3.76	854	253 Shell-Thick	INVSLE Combination	-8.1497	-0.7853	-33.29	-
3.76	854	253 Shell-Thick	INVSLE Combination	-7.1452	-1.4864	-30.76	-
5.98	854	253 Shell-Thick	INVSLE Combination	-3.4436	-0.3204	-30.76	-
5.98	854	253 Shell-Thick	INVSLE Combination	-4.3088	0.2885	-33.29	-
1.52	855	254 Shell-Thick	INVSLE Combination	-1.6674	0.2823	-11.46	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 282 di 416
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1.52	855	254 Shell-Thick	INVSLE Combination	-1.4917	-0.0035	-10.73	-
2.16	855	254 Shell-Thick	INVSLE Combination	-0.1920	0.4969	-10.73	-
2.16	855	254 Shell-Thick	INVSLE Combination	-0.3538	0.9463	-11.46	-
2.94	855	254 Shell-Thick	INVSLE Combination	-2.6592	0.2487	-17.20	-
2.94	855	254 Shell-Thick	INVSLE Combination	-2.3805	-0.2027	-15.92	-
4.06	855	254 Shell-Thick	INVSLE Combination	-0.4520	0.4903	-15.92	-
4.06	855	254 Shell-Thick	INVSLE Combination	-0.6865	0.7401	-17.20	-
2.06	855	254 Shell-Thick	INVSLE Combination	-2.2510	0.3862	-15.47	-
2.06	855	254 Shell-Thick	INVSLE Combination	-2.0138	-0.0048	-14.49	-
2.92	855	254 Shell-Thick	INVSLE Combination	-0.2592	0.6708	-14.49	-
2.92	855	254 Shell-Thick	INVSLE Combination	-0.4776	1.3683	-15.47	-
5.83	855	254 Shell-Thick	INVSLE Combination	-4.6894	0.3357	-28.97	-
5.83	855	254 Shell-Thick	INVSLE Combination	-4.1997	-0.6104	-26.54	-
7.95	855	254 Shell-Thick	INVSLE Combination	-0.9842	0.4768	-26.54	-
7.95	855	254 Shell-Thick	INVSLE Combination	-1.3676	0.9992	-28.97	-
2.13	856	255 Shell-Thick	INVSLE Combination	-0.5367	0.9500	-9.78	-
2.13	856	255 Shell-Thick	INVSLE Combination	-0.5156	0.4032	-9.09	-
2.74	856	255 Shell-Thick	INVSLE Combination	0.7118	0.9608	-9.09	-
2.74	856	255 Shell-Thick	INVSLE Combination	0.7132	1.5594	-9.78	-
4.00	856	255 Shell-Thick	INVSLE Combination	-0.9708	0.7325	-14.77	-
4.00	856	255 Shell-Thick	INVSLE Combination	-0.9420	0.3317	-13.57	-
5.05	856	255 Shell-Thick	INVSLE Combination	0.5926	0.8616	-13.57	-
5.05	856	255 Shell-Thick	INVSLE Combination	0.5777	1.1871	-14.77	-
2.87	856	255 Shell-Thick	INVSLE Combination	-0.7246	1.3953	-13.21	-
2.87	856	255 Shell-Thick	INVSLE Combination	-0.6960	0.5443	-12.27	-
3.70	856	255 Shell-Thick	INVSLE Combination	0.9787	1.3120	-12.27	-
3.70	856	255 Shell-Thick	INVSLE Combination	0.9907	2.3214	-13.21	-
7.82	856	255 Shell-Thick	INVSLE Combination	-1.8595	0.9889	-24.99	-
7.82	856	255 Shell-Thick	INVSLE Combination	-1.8147	0.1853	-22.73	-
9.79	856	255 Shell-Thick	INVSLE Combination	0.8001	1.1632	-22.73	-
9.79	856	255 Shell-Thick	INVSLE Combination	0.7799	1.6026	-24.99	-
2.71	857	256 Shell-Thick	INVSLE Combination	0.3883	1.5480	-8.27	-
2.71	857	256 Shell-Thick	INVSLE Combination	0.2461	0.8049	-7.62	-
3.28	857	256 Shell-Thick	INVSLE Combination	1.6041	1.3619	-7.62	-
3.28	857	256 Shell-Thick	INVSLE Combination	1.8111	2.0927	-8.27	-
5.00	857	256 Shell-Thick	INVSLE Combination	0.3587	1.1692	-12.55	-
5.00	857	256 Shell-Thick	INVSLE Combination	0.2005	0.7664	-11.45	-
5.96	857	256 Shell-Thick	INVSLE Combination	1.1817	1.1740	-11.45	-
5.96	857	256 Shell-Thick	INVSLE Combination	1.2947	1.5767	-12.55	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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3.66	857	256 Shell-Thick	INVSLU Combination	0.5286	2.3235	-11.16	-
3.66	857	256 Shell-Thick	INVSLU Combination	0.3322	1.0924	-10.29	-
4.42	857	256 Shell-Thick	INVSLU Combination	2.4689	1.8668	-10.29	-
4.42	857	256 Shell-Thick	INVSLU Combination	2.8680	3.1488	-11.16	-
9.67	857	256 Shell-Thick	INVSLU Combination	0.4488	1.5784	-21.32	-
9.67	857	256 Shell-Thick	INVSLU Combination	0.1073	0.8837	-19.28	-
11.46	857	256 Shell-Thick	INVSLU Combination	1.5953	1.5849	-19.28	-
11.46	857	256 Shell-Thick	INVSLU Combination	1.7479	2.1286	-21.32	-
3.25	858	257 Shell-Thick	INVSLE Combination	1.4745	2.0719	-6.89	-
3.25	858	257 Shell-Thick	INVSLE Combination	1.1056	1.2157	-6.31	-
3.76	858	257 Shell-Thick	INVSLE Combination	2.2797	1.6938	-6.31	-
3.76	858	257 Shell-Thick	INVSLE Combination	2.6595	2.5430	-6.89	-
5.91	858	257 Shell-Thick	INVSLE Combination	1.0629	1.5530	-10.50	-
5.91	858	257 Shell-Thick	INVSLE Combination	0.8389	1.0828	-9.53	-
6.77	858	257 Shell-Thick	INVSLE Combination	1.6178	1.4344	-9.53	-
6.77	858	257 Shell-Thick	INVSLE Combination	1.8384	1.9071	-10.50	-
4.39	858	257 Shell-Thick	INVSLU Combination	2.3169	3.1341	-9.30	-
4.39	858	257 Shell-Thick	INVSLU Combination	1.6515	1.6611	-8.52	-
5.07	858	257 Shell-Thick	INVSLU Combination	3.6344	2.3255	-8.52	-
5.07	858	257 Shell-Thick	INVSLU Combination	4.3403	3.8449	-9.30	-
11.36	858	257 Shell-Thick	INVSLU Combination	1.4349	2.0965	-17.91	-
11.36	858	257 Shell-Thick	INVSLU Combination	1.1326	1.4618	-16.11	-
12.93	858	257 Shell-Thick	INVSLU Combination	2.1841	1.9364	-16.11	-
12.93	858	257 Shell-Thick	INVSLU Combination	2.4819	2.5745	-17.91	-
3.74	859	258 Shell-Thick	INVSLE Combination	2.3372	2.5175	-5.62	-
3.74	859	258 Shell-Thick	INVSLE Combination	1.8167	1.5622	-5.12	-
4.17	859	258 Shell-Thick	INVSLE Combination	2.7784	1.9615	-5.12	-
4.17	859	258 Shell-Thick	INVSLE Combination	3.3038	2.9140	-5.62	-
6.73	859	258 Shell-Thick	INVSLE Combination	1.6135	1.8811	-8.60	-
6.73	859	258 Shell-Thick	INVSLE Combination	1.2972	1.3512	-7.77	-
7.46	859	258 Shell-Thick	INVSLE Combination	1.9325	1.6453	-7.77	-
7.46	859	258 Shell-Thick	INVSLE Combination	2.2432	2.1792	-8.60	-
5.05	859	258 Shell-Thick	INVSLU Combination	3.8186	3.8204	-7.58	-
5.05	859	258 Shell-Thick	INVSLU Combination	2.8800	2.1406	-6.92	-
5.63	859	258 Shell-Thick	INVSLU Combination	4.5098	2.6954	-6.92	-
5.63	859	258 Shell-Thick	INVSLU Combination	5.4750	4.4180	-7.58	-
12.85	859	258 Shell-Thick	INVSLU Combination	2.1782	2.5394	-14.72	-
12.85	859	258 Shell-Thick	INVSLU Combination	1.7512	1.8242	-13.19	-
14.19	859	258 Shell-Thick	INVSLU Combination	2.6089	2.2211	-13.19	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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14.19	859	258 Shell-Thick	INVSLU Combination	3.0283	2.9419	-14.72	-	
4.16	860	259 Shell-Thick	INVSLE Combination	3.0124	2.8875	-4.44	-	
4.16	860	259 Shell-Thick	INVSLE Combination	2.3718	1.8484	-4.03	-	
4.51	860	259 Shell-Thick	INVSLE Combination	3.1348	2.1677	-4.03	-	
4.51	860	259 Shell-Thick	INVSLE Combination	3.7764	3.2065	-4.44	-	
7.43	860	259 Shell-Thick	INVSLE Combination	2.0386	2.1538	-6.83	-	
7.43	860	259 Shell-Thick	INVSLE Combination	1.6496	1.5732	-6.14	-	
8.03	860	259 Shell-Thick	INVSLE Combination	2.1519	1.8091	-6.14	-	
8.03	860	259 Shell-Thick	INVSLE Combination	2.5343	2.3943	-6.83	-	
5.61	860	259 Shell-Thick	INVSLE Combination	5.0057	4.3893	-6.00	-	
5.61	860	259 Shell-Thick	INVSLE Combination	3.8501	2.5366	-5.44	-	
6.09	860	259 Shell-Thick	INVSLE Combination	5.1467	2.9802	-5.44	-	
6.09	860	259 Shell-Thick	INVSLE Combination	6.3188	4.8689	-6.00	-	
14.12	860	259 Shell-Thick	INVSLE Combination	2.7521	2.9076	-11.71	-	
14.12	860	259 Shell-Thick	INVSLE Combination	2.2270	2.1238	-10.45	-	
15.22	860	259 Shell-Thick	INVSLE Combination	2.9051	2.4423	-10.45	-	
15.22	860	259 Shell-Thick	INVSLE Combination	3.4213	3.2324	-11.71	-	
4.50	861	260 Shell-Thick	INVSLE Combination	3.5321	3.1821	-3.34	-	
4.50	861	260 Shell-Thick	INVSLE Combination	2.7973	2.0758	-3.02	-	
4.78	861	260 Shell-Thick	INVSLE Combination	3.3724	2.3179	-3.02	-	
4.78	861	260 Shell-Thick	INVSLE Combination	4.1057	3.4255	-3.34	-	
8.00	861	260 Shell-Thick	INVSLE Combination	2.3619	2.3718	-5.14	-	
8.00	861	260 Shell-Thick	INVSLE Combination	1.9168	1.7502	-4.61	-	
8.46	861	260 Shell-Thick	INVSLE Combination	2.2943	1.9291	-4.61	-	
8.46	861	260 Shell-Thick	INVSLE Combination	2.7330	2.5552	-5.14	-	
6.08	861	260 Shell-Thick	INVSLE Combination	5.9274	4.8408	-4.50	-	
6.08	861	260 Shell-Thick	INVSLE Combination	4.5998	2.8511	-4.08	-	
6.45	861	260 Shell-Thick	INVSLE Combination	5.5793	3.1875	-4.08	-	
6.45	861	260 Shell-Thick	INVSLE Combination	6.9156	5.2069	-4.50	-	
15.16	861	260 Shell-Thick	INVSLE Combination	3.1886	3.2019	-8.84	-	
15.16	861	260 Shell-Thick	INVSLE Combination	2.5876	2.3628	-7.87	-	
16.01	861	260 Shell-Thick	INVSLE Combination	3.0973	2.6043	-7.87	-	
16.01	861	260 Shell-Thick	INVSLE Combination	3.6895	3.4495	-8.84	-	
4.77	862	261 Shell-Thick	INVSLE Combination	3.9170	3.4055	-2.28	-	
4.77	862	261 Shell-Thick	INVSLE Combination	3.1165	2.2490	-2.06	-	
4.96	862	261 Shell-Thick	INVSLE Combination	3.5115	2.4149	-2.06	-	
4.96	862	261 Shell-Thick	INVSLE Combination	4.3095	3.5731	-2.28	-	
8.45	862	261 Shell-Thick	INVSLE Combination	2.5998	2.5372	-3.53	-	
8.45	862	261 Shell-Thick	INVSLE Combination	2.1156	1.8848	-3.16	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 285 di 416
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8.77	862	261 Shell-Thick	INVSLE Combination	2.3743	2.0076	-3.16	-
8.77	862	261 Shell-Thick	INVSLE Combination	2.8531	2.6637	-3.53	-
6.44	862	261 Shell-Thick	INVSLE Combination	6.6134	5.1828	-3.08	-
6.44	862	261 Shell-Thick	INVSLE Combination	5.1654	3.0908	-2.79	-
6.70	862	261 Shell-Thick	INVSLE Combination	5.8392	3.3212	-2.79	-
6.70	862	261 Shell-Thick	INVSLE Combination	7.2906	5.4347	-3.08	-
15.97	862	261 Shell-Thick	INVSLE Combination	3.5097	3.4252	-6.07	-
15.97	862	261 Shell-Thick	INVSLE Combination	2.8561	2.5445	-5.40	-
16.56	862	261 Shell-Thick	INVSLE Combination	3.2053	2.7103	-5.40	-
16.56	862	261 Shell-Thick	INVSLE Combination	3.8517	3.5960	-6.07	-
4.96	863	262 Shell-Thick	INVSLE Combination	4.1859	3.5592	-1.27	-
4.96	863	262 Shell-Thick	INVSLE Combination	3.3426	2.3703	-1.15	-
5.07	863	262 Shell-Thick	INVSLE Combination	3.5629	2.4621	-1.15	-
5.07	863	262 Shell-Thick	INVSLE Combination	4.4034	3.6528	-1.27	-
8.76	863	262 Shell-Thick	INVSLE Combination	2.7654	2.6514	-1.96	-
8.76	863	262 Shell-Thick	INVSLE Combination	2.2567	1.9789	-1.75	-
8.94	863	262 Shell-Thick	INVSLE Combination	2.4007	2.0468	-1.75	-
8.94	863	262 Shell-Thick	INVSLE Combination	2.9057	2.7219	-1.96	-
6.69	863	262 Shell-Thick	INVSLE Combination	7.0934	5.4173	-1.71	-
6.69	863	262 Shell-Thick	INVSLE Combination	5.5655	3.2587	-1.55	-
6.84	863	262 Shell-Thick	INVSLE Combination	5.9417	3.3861	-1.55	-
6.84	863	262 Shell-Thick	INVSLE Combination	7.4690	5.5584	-1.71	-
16.54	863	262 Shell-Thick	INVSLE Combination	3.7333	3.5794	-3.38	-
16.54	863	262 Shell-Thick	INVSLE Combination	3.0465	2.6715	-3.00	-
16.87	863	262 Shell-Thick	INVSLE Combination	3.2410	2.7632	-3.00	-
16.87	863	262 Shell-Thick	INVSLE Combination	3.9227	3.6746	-3.38	-
5.06	864	263 Shell-Thick	INVSLE Combination	4.3472	3.6459	-0.27	-
5.06	864	263 Shell-Thick	INVSLE Combination	3.4873	2.4426	-0.25	-
5.09	864	263 Shell-Thick	INVSLE Combination	3.5357	2.4609	-0.25	-
5.09	864	263 Shell-Thick	INVSLE Combination	4.3932	3.6659	-0.27	-
8.94	864	263 Shell-Thick	INVSLE Combination	2.8661	2.7160	-0.42	-
8.94	864	263 Shell-Thick	INVSLE Combination	2.3480	2.0342	-0.38	-
8.98	864	263 Shell-Thick	INVSLE Combination	2.3797	2.0478	-0.38	-
8.98	864	263 Shell-Thick	INVSLE Combination	2.8959	2.7309	-0.42	-
6.84	864	263 Shell-Thick	INVSLE Combination	7.3789	5.5493	-0.37	-
6.84	864	263 Shell-Thick	INVSLE Combination	5.8193	3.3588	-0.33	-
6.87	864	263 Shell-Thick	INVSLE Combination	5.9021	3.3842	-0.33	-
6.87	864	263 Shell-Thick	INVSLE Combination	7.4580	5.5798	-0.37	-
16.86	864	263 Shell-Thick	INVSLE Combination	3.8692	3.6666	-0.73	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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16.86	864	263 Shell-Thick	INVSLU Combination	3.1698	2.7461	-0.65	-	
16.93	864	263 Shell-Thick	INVSLU Combination	3.2126	2.7646	-0.65	-	
16.93	864	263 Shell-Thick	INVSLU Combination	3.9095	3.6867	-0.73	-	
5.09	865	264 Shell-Thick	INVSLE Combination	4.4084	3.6665	1.11	-	
5.09	865	264 Shell-Thick	INVSLE Combination	3.5533	2.4669	0.99	-	
5.03	865	264 Shell-Thick	INVSLE Combination	3.4307	2.4121	0.99	-	
5.03	865	264 Shell-Thick	INVSLE Combination	4.2837	3.6130	1.11	-	
8.98	865	264 Shell-Thick	INVSLE Combination	2.9065	2.7318	0.72	-	
8.98	865	264 Shell-Thick	INVSLE Combination	2.3924	2.0516	0.65	-	
8.88	865	264 Shell-Thick	INVSLE Combination	2.3122	2.0111	0.65	-	
8.88	865	264 Shell-Thick	INVSLE Combination	2.8265	2.6911	0.72	-	
6.87	865	264 Shell-Thick	INVSLU Combination	7.4827	5.5798	1.91	-	
6.87	865	264 Shell-Thick	INVSLU Combination	5.9297	3.3926	1.70	-	
6.79	865	264 Shell-Thick	INVSLU Combination	5.7202	3.3164	1.70	-	
6.79	865	264 Shell-Thick	INVSLU Combination	7.2664	5.5000	1.91	-	
16.94	865	264 Shell-Thick	INVSLU Combination	3.9237	3.6879	0.97	-	
16.94	865	264 Shell-Thick	INVSLU Combination	3.2298	2.7696	0.87	-	
16.75	865	264 Shell-Thick	INVSLU Combination	3.1215	2.7150	0.87	-	
16.75	865	264 Shell-Thick	INVSLU Combination	3.8157	3.6331	0.97	-	
5.03	866	265 Shell-Thick	INVSLE Combination	4.3674	3.6209	2.66	-	
5.03	866	265 Shell-Thick	INVSLE Combination	3.5427	2.4433	2.38	-	
4.89	866	265 Shell-Thick	INVSLE Combination	3.2473	2.3149	2.38	-	
4.89	866	265 Shell-Thick	INVSLE Combination	4.0700	3.4938	2.66	-	
8.88	866	265 Shell-Thick	INVSLE Combination	2.8858	2.6987	1.72	-	
8.88	866	265 Shell-Thick	INVSLE Combination	2.3907	2.0312	1.55	-	
8.88	866	265 Shell-Thick	INVSLE Combination	2.1974	1.9362	1.55	-	
8.64	866	265 Shell-Thick	INVSLE Combination	2.6945	2.6023	1.72	-	
8.64	866	265 Shell-Thick	INVSLE Combination	7.4000	5.5088	4.58	-	
6.79	866	265 Shell-Thick	INVSLU Combination	5.9007	3.3603	4.07	-	
6.79	866	265 Shell-Thick	INVSLU Combination	5.3965	3.1820	4.07	-	
6.60	866	265 Shell-Thick	INVSLU Combination	6.8855	5.3187	4.58	-	
6.60	866	265 Shell-Thick	INVSLU Combination	3.8959	3.6432	2.32	-	
16.77	866	265 Shell-Thick	INVSLU Combination	3.2274	2.7421	2.09	-	
16.77	866	265 Shell-Thick	INVSLU Combination	2.9664	2.6138	2.09	-	
16.33	866	265 Shell-Thick	INVSLU Combination	3.6376	3.5130	2.32	-	
16.33	867	266 Shell-Thick	INVSLE Combination	4.2211	3.5083	4.24	-	
4.89	867	266 Shell-Thick	INVSLE Combination	3.4485	2.3709	3.80	-	
4.89	867	266 Shell-Thick	INVSLE Combination	2.9765	2.1671	3.80	-	
4.66	867	266 Shell-Thick	INVSLE Combination	3.7464	3.3061	4.24	-	
4.66	867	266 Shell-Thick	INVSLE Combination					

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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8.66	867	266 Shell-Thick	INVSLE Combination	2.8011	2.6159	2.74	-	
8.66	867	266 Shell-Thick	INVSLE Combination	2.3384	1.9721	2.48	-	
8.27	867	266 Shell-Thick	INVSLE Combination	2.0290	1.8216	2.48	-	
8.27	867	266 Shell-Thick	INVSLE Combination	2.4950	2.4630	2.74	-	
6.61	867	266 Shell-Thick	INVSLE Combination	7.1277	5.3350	7.30	-	
6.61	867	266 Shell-Thick	INVSLE Combination	5.7209	3.2606	6.50	-	
6.30	867	266 Shell-Thick	INVSLE Combination	4.9162	2.9775	6.50	-	
6.30	867	266 Shell-Thick	INVSLE Combination	6.3079	5.0319	7.30	-	
16.36	867	266 Shell-Thick	INVSLE Combination	3.7815	3.5314	3.71	-	
16.36	867	266 Shell-Thick	INVSLE Combination	3.1569	2.6623	3.35	-	
15.66	867	266 Shell-Thick	INVSLE Combination	2.7391	2.4591	3.35	-	
15.66	867	266 Shell-Thick	INVSLE Combination	3.3683	3.3250	3.71	-	
4.68	868	267 Shell-Thick	INVSLE Combination	3.9568	3.3257	5.88	-	
4.68	868	267 Shell-Thick	INVSLE Combination	3.2628	2.2468	5.28	-	
4.36	868	267 Shell-Thick	INVSLE Combination	2.6078	1.9667	5.28	-	
4.36	868	267 Shell-Thick	INVSLE Combination	3.2973	3.0483	5.88	-	
8.30	868	267 Shell-Thick	INVSLE Combination	2.6436	2.4817	3.82	-	
8.30	868	267 Shell-Thick	INVSLE Combination	2.2291	1.8726	3.46	-	
7.77	868	267 Shell-Thick	INVSLE Combination	1.7986	1.6656	3.46	-	
7.77	868	267 Shell-Thick	INVSLE Combination	2.2170	2.2719	3.82	-	
6.31	868	267 Shell-Thick	INVSLE Combination	6.6449	5.0535	10.10	-	
6.31	868	267 Shell-Thick	INVSLE Combination	5.3789	3.0894	9.01	-	
5.89	868	267 Shell-Thick	INVSLE Combination	4.2643	2.7001	9.01	-	
5.89	868	267 Shell-Thick	INVSLE Combination	5.5086	4.6376	10.10	-	
15.71	868	267 Shell-Thick	INVSLE Combination	3.5688	3.3503	5.15	-	
15.71	868	267 Shell-Thick	INVSLE Combination	3.0092	2.5280	4.67	-	
14.75	868	267 Shell-Thick	INVSLE Combination	2.4281	2.2485	4.67	-	
14.75	868	267 Shell-Thick	INVSLE Combination	2.9929	3.0671	5.15	-	
4.38	869	268 Shell-Thick	INVSLE Combination	3.5598	3.0711	7.60	-	
4.38	869	268 Shell-Thick	INVSLE Combination	2.9684	2.0685	6.85	-	
3.99	869	268 Shell-Thick	INVSLE Combination	2.1213	1.7091	6.85	-	
3.99	869	268 Shell-Thick	INVSLE Combination	2.7050	2.7165	7.60	-	
7.80	869	268 Shell-Thick	INVSLE Combination	2.4015	2.2942	4.95	-	
7.80	869	268 Shell-Thick	INVSLE Combination	2.0503	1.7305	4.50	-	
7.15	869	268 Shell-Thick	INVSLE Combination	1.4918	1.4657	4.50	-	
7.15	869	268 Shell-Thick	INVSLE Combination	1.8465	2.0269	4.95	-	
5.91	869	268 Shell-Thick	INVSLE Combination	5.9309	4.6614	13.03	-	
5.91	869	268 Shell-Thick	INVSLE Combination	4.8478	2.8431	11.65	-	
5.38	869	268 Shell-Thick	INVSLE Combination	3.4098	2.3438	11.65	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 288 di 416
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5.38	869	268 Shell-Thick	INVSLU Combination	4.4623	4.1282	13.03	-	
14.81	869	268 Shell-Thick	INVSLU Combination	3.2420	3.0972	6.68	-	
14.81	869	268 Shell-Thick	INVSLU Combination	2.7679	2.3362	6.08	-	
13.61	869	268 Shell-Thick	INVSLU Combination	2.0139	1.9787	6.08	-	
13.61	869	268 Shell-Thick	INVSLU Combination	2.4928	2.7363	6.68	-	
4.01	870	269 Shell-Thick	INVSLE Combination	3.0054	2.7397	9.43	-	
4.01	870	269 Shell-Thick	INVSLE Combination	2.5451	1.8307	8.53	-	
3.54	870	269 Shell-Thick	INVSLE Combination	1.4940	1.3924	8.53	-	
3.54	870	269 Shell-Thick	INVSLE Combination	1.9414	2.3097	9.43	-	
7.18	870	269 Shell-Thick	INVSLE Combination	2.0566	2.0508	6.16	-	
7.18	870	269 Shell-Thick	INVSLE Combination	1.7864	1.5427	5.63	-	
6.40	870	269 Shell-Thick	INVSLE Combination	1.0908	1.2201	5.63	-	
6.40	870	269 Shell-Thick	INVSLE Combination	1.3628	1.7267	6.16	-	
5.41	870	269 Shell-Thick	INVSLU Combination	4.9475	4.1500	16.11	-	
5.41	870	269 Shell-Thick	INVSLU Combination	4.0980	2.5146	14.46	-	
4.78	870	269 Shell-Thick	INVSLU Combination	2.3193	1.9056	14.46	-	
4.78	870	269 Shell-Thick	INVSLU Combination	3.1258	3.5029	16.11	-	
13.69	870	269 Shell-Thick	INVSLU Combination	2.7764	2.7686	8.32	-	
13.69	870	269 Shell-Thick	INVSLU Combination	2.4116	2.0827	7.60	-	
12.25	870	269 Shell-Thick	INVSLU Combination	1.4726	1.6471	7.60	-	
12.25	870	269 Shell-Thick	INVSLU Combination	1.8398	2.3311	8.32	-	
3.56	871	270 Shell-Thick	INVSLE Combination	2.2648	2.3298	11.39	-	
3.56	871	270 Shell-Thick	INVSLE Combination	1.9625	1.5306	10.35	-	
3.03	871	270 Shell-Thick	INVSLE Combination	0.6924	1.0123	10.35	-	
3.03	871	270 Shell-Thick	INVSLE Combination	0.9745	1.8245	11.39	-	
3.03	871	270 Shell-Thick	INVSLE Combination	1.5867	1.7497	7.48	-	
6.44	871	270 Shell-Thick	INVSLE Combination	1.4146	1.3066	6.87	-	
6.44	871	270 Shell-Thick	INVSLE Combination	0.5703	0.9268	6.87	-	
5.54	871	270 Shell-Thick	INVSLE Combination	0.7410	1.3704	7.48	-	
5.54	871	270 Shell-Thick	INVSLU Combination	3.6528	3.5174	19.39	-	
4.81	871	270 Shell-Thick	INVSLU Combination	3.0841	2.0999	17.48	-	
4.81	871	270 Shell-Thick	INVSLU Combination	0.9530	1.3794	17.48	-	
4.09	871	270 Shell-Thick	INVSLU Combination	1.4524	2.7539	19.39	-	
4.09	871	270 Shell-Thick	INVSLU Combination	2.1420	2.3621	10.10	-	
12.34	871	270 Shell-Thick	INVSLU Combination	1.9097	1.7640	9.28	-	
12.34	871	270 Shell-Thick	INVSLU Combination	0.7699	1.1873	9.28	-	
10.67	871	270 Shell-Thick	INVSLU Combination	1.0004	1.8501	10.10	-	
10.67	871	270 Shell-Thick	INVSLU Combination	1.0004	1.8501	10.10	-	
3.06	872	271 Shell-Thick	INVSLE Combination	1.2979	1.8373	13.51	-	
3.06	872	271 Shell-Thick	INVSLE Combination	1.1851	1.1627	12.35	-	

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.diPag. 289 di 416
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2.47	872	271 Shell-Thick	INVSLE Combination	-0.1002	0.5858	12.35	-	
2.47	872	271 Shell-Thick	INVSLE Combination	-0.0524	1.2633	13.51	-	
5.59	872	271 Shell-Thick	INVSLE Combination	0.9611	1.3892	8.91	-	
5.59	872	271 Shell-Thick	INVSLE Combination	0.9071	1.0194	8.24	-	
4.59	872	271 Shell-Thick	INVSLE Combination	-0.3226	0.5690	8.24	-	
4.59	872	271 Shell-Thick	INVSLE Combination	-0.2400	0.9594	8.91	-	
4.13	872	271 Shell-Thick	INVSLE Combination	1.9872	2.7546	22.90	-	
4.13	872	271 Shell-Thick	INVSLE Combination	1.7542	1.5911	20.77	-	
3.34	872	271 Shell-Thick	INVSLE Combination	-0.1352	0.7908	20.77	-	
3.34	872	271 Shell-Thick	INVSLE Combination	-0.0708	1.8853	22.90	-	
10.79	872	271 Shell-Thick	INVSLE Combination	1.2975	1.8754	12.03	-	
10.79	872	271 Shell-Thick	INVSLE Combination	1.2246	1.3762	11.13	-	
8.92	872	271 Shell-Thick	INVSLE Combination	-0.7779	0.5348	11.13	-	
8.92	872	271 Shell-Thick	INVSLE Combination	-0.6238	1.2952	12.03	-	
2.50	873	272 Shell-Thick	INVSLE Combination	0.1431	1.2635	15.81	-	
2.50	873	272 Shell-Thick	INVSLE Combination	0.2262	0.7257	14.57	-	
1.88	873	272 Shell-Thick	INVSLE Combination	-0.9612	0.1988	14.57	-	
1.88	873	272 Shell-Thick	INVSLE Combination	-1.0574	0.6281	15.81	-	
4.65	873	272 Shell-Thick	INVSLE Combination	0.0573	0.9698	10.49	-	
4.65	873	272 Shell-Thick	INVSLE Combination	0.1646	0.6797	9.78	-	
3.56	873	272 Shell-Thick	INVSLE Combination	-1.6031	0.0622	9.78	-	
3.56	873	272 Shell-Thick	INVSLE Combination	-1.7530	0.4974	10.49	-	
3.38	873	272 Shell-Thick	INVSLE Combination	0.1932	1.8647	26.70	-	
3.38	873	272 Shell-Thick	INVSLE Combination	0.3053	0.9866	24.37	-	
2.53	873	272 Shell-Thick	INVSLE Combination	-1.2977	0.2684	24.37	-	
2.53	873	272 Shell-Thick	INVSLE Combination	-1.4275	0.8956	26.70	-	
9.05	873	272 Shell-Thick	INVSLE Combination	-0.1182	1.3093	14.17	-	
9.05	873	272 Shell-Thick	INVSLE Combination	0.0385	0.8199	13.20	-	
7.00	873	272 Shell-Thick	INVSLE Combination	-2.9169	-0.2173	13.20	-	
7.00	873	272 Shell-Thick	INVSLE Combination	-3.1770	0.6715	14.17	-	
1.91	874	273 Shell-Thick	INVSLE Combination	-0.9155	0.6092	18.34	-	
1.91	874	273 Shell-Thick	INVSLE Combination	-0.6742	0.2876	17.03	-	
1.27	874	273 Shell-Thick	INVSLE Combination	-2.0617	-0.2283	17.03	-	
1.27	874	273 Shell-Thick	INVSLE Combination	-2.3252	-0.0070	18.34	-	
3.63	874	273 Shell-Thick	INVSLE Combination	-1.5190	0.4944	12.24	-	
3.63	874	273 Shell-Thick	INVSLE Combination	-1.1574	0.2171	11.51	-	
2.49	874	273 Shell-Thick	INVSLE Combination	-3.2109	-0.5004	11.51	-	
2.49	874	273 Shell-Thick	INVSLE Combination	-3.6313	-0.0696	12.24	-	
2.58	874	273 Shell-Thick	INVSLE Combination	-1.2359	0.8440	30.82	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 290 di 416
2.58	874	273 Shell-Thick	INVS LU Combination	-0.9101	0.3883	28.34	-	
1.72	874	273 Shell-Thick	INVS LU Combination	-2.7833	-0.3083	28.34	-	
1.72	874	273 Shell-Thick	INVS LU Combination	-3.1390	-0.0095	30.82	-	
7.15	874	273 Shell-Thick	INVS LU Combination	-2.7542	0.6675	16.52	-	
7.15	874	273 Shell-Thick	INVS LU Combination	-2.1464	0.0729	15.54	-	
4.98	874	273 Shell-Thick	INVS LU Combination	-5.5631	-1.0573	15.54	-	
4.98	874	273 Shell-Thick	INVS LU Combination	-6.3047	-0.1977	16.52	-	
1.31	875	274 Shell-Thick	INVS LE Combination	-2.2733	-0.0302	21.10	-	
1.31	875	274 Shell-Thick	INVS LE Combination	-1.8556	-0.1536	19.79	-	
0.69	875	274 Shell-Thick	INVS LE Combination	-3.4662	-0.6837	19.79	-	
0.69	875	274 Shell-Thick	INVS LE Combination	-3.9174	-0.5382	21.10	-	
2.57	875	274 Shell-Thick	INVS LE Combination	-3.5067	-0.1163	14.17	-	
2.57	875	274 Shell-Thick	INVS LE Combination	-2.8584	-0.3583	13.46	-	
1.42	875	274 Shell-Thick	INVS LE Combination	-5.2276	-1.1066	13.46	-	
1.42	875	274 Shell-Thick	INVS LE Combination	-5.9539	-0.8129	14.17	-	
1.77	875	274 Shell-Thick	INVS LU Combination	-3.0690	-0.0407	35.30	-	
1.77	875	274 Shell-Thick	INVS LU Combination	-2.5050	-0.2074	32.74	-	
0.93	875	274 Shell-Thick	INVS LU Combination	-4.6794	-0.9230	32.74	-	
0.93	875	274 Shell-Thick	INVS LU Combination	-5.2885	-0.7266	35.30	-	
5.14	875	274 Shell-Thick	INVS LU Combination	-6.0312	-0.2926	19.13	-	
5.14	875	274 Shell-Thick	INVS LU Combination	-4.9113	-0.7774	18.18	-	
2.90	875	274 Shell-Thick	INVS LU Combination	-8.8332	-1.9721	18.18	-	
2.90	875	274 Shell-Thick	INVS LU Combination	-10.1226	-1.3750	19.13	-	
0.74	876	275 Shell-Thick	INVS LE Combination	-4.0898	-0.6182	24.99	-	
0.74	876	275 Shell-Thick	INVS LE Combination	-3.4236	-0.6298	23.68	-	
0.74	876	275 Shell-Thick	INVS LE Combination	-6.3369	-1.3732	23.68	-	
0.20	876	275 Shell-Thick	INVS LE Combination	-7.0301	-1.3002	24.99	-	
0.20	876	275 Shell-Thick	INVS LE Combination	-6.1057	-0.9434	16.90	-	
1.53	876	275 Shell-Thick	INVS LE Combination	-5.0359	-0.9681	16.25	-	
1.53	876	275 Shell-Thick	INVS LE Combination	-9.3039	-2.0503	16.25	-	
0.11	876	275 Shell-Thick	INVS LE Combination	-10.4302	-1.8965	16.90	-	
0.11	876	275 Shell-Thick	INVS LU Combination	-5.5213	-0.8345	41.56	-	
1.00	876	275 Shell-Thick	INVS LU Combination	-4.6219	-0.8502	38.88	-	
1.00	876	275 Shell-Thick	INVS LU Combination	-8.5548	-1.8539	38.88	-	
0.38	876	275 Shell-Thick	INVS LU Combination	-9.4906	-1.7552	41.56	-	
0.38	876	275 Shell-Thick	INVS LU Combination	-10.2320	-1.6090	22.82	-	
3.14	876	275 Shell-Thick	INVS LU Combination	-8.3362	-1.6607	21.94	-	
3.14	876	275 Shell-Thick	INVS LU Combination	-15.3772	-3.4362	21.94	-	
0.15	876	275 Shell-Thick	INVS LU Combination	-17.3901	-3.1172	22.82	-	
0.15	876	275 Shell-Thick	INVS LU Combination					

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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0.21	886	276 Shell-Thick	INVSLE Combination	-6.2880	-1.1376	-17.04		
0.21	886	276 Shell-Thick	INVSLE Combination	-5.3783	-1.1956	-16.09		
0.71	886	276 Shell-Thick	INVSLE Combination	-3.4556	-0.7307	-16.09	-	
0.71	886	276 Shell-Thick	INVSLE Combination	-4.3090	-0.7100	-17.04	-	
0.13	886	276 Shell-Thick	INVSLE Combination	-9.1845	-1.6400	-24.78		
0.13	886	276 Shell-Thick	INVSLE Combination	-7.7602	-1.7490	-23.08		
1.28	886	276 Shell-Thick	INVSLE Combination	-4.9973	-1.0812	-23.08	-	
1.28	886	276 Shell-Thick	INVSLE Combination	-6.3106	-1.0458	-24.78	-	
0.37	886	276 Shell-Thick	INVSLE Combination	-8.4888	-1.5358	-23.01		
0.37	886	276 Shell-Thick	INVSLE Combination	-7.2606	-1.6141	-21.72		
0.96	886	276 Shell-Thick	INVSLE Combination	-4.6650	-0.9864	-21.72	-	
0.96	886	276 Shell-Thick	INVSLE Combination	-5.8172	-0.9585	-23.01	-	
0.17	886	276 Shell-Thick	INVSLE Combination	-15.1136	-2.6683	-40.62		
0.17	886	276 Shell-Thick	INVSLE Combination	-12.6360	-2.8817	-37.40		
2.45	886	276 Shell-Thick	INVSLE Combination	-8.1530	-1.7989	-37.40	-	
2.45	886	276 Shell-Thick	INVSLE Combination	-10.4076	-1.7333	-40.62	-	
0.66	887	277 Shell-Thick	INVSLE Combination	-4.2491	-0.6506	-14.70	-	
0.66	887	277 Shell-Thick	INVSLE Combination	-3.6281	-0.8126	-13.67	-	
1.56	887	277 Shell-Thick	INVSLE Combination	-1.9766	-0.3265	-13.67	-	
1.56	887	277 Shell-Thick	INVSLE Combination	-2.5596	-0.1895	-14.70	-	
1.18	887	277 Shell-Thick	INVSLE Combination	-6.3202	-0.9550	-21.52	-	
1.18	887	277 Shell-Thick	INVSLE Combination	-5.3492	-1.2444	-19.76	-	
2.72	887	277 Shell-Thick	INVSLE Combination	-2.9598	-0.5663	-19.76	-	
2.72	887	277 Shell-Thick	INVSLE Combination	-3.8486	-0.3311	-21.52	-	
0.89	887	277 Shell-Thick	INVSLE Combination	-5.7363	-0.8783	-19.85	-	
0.89	887	277 Shell-Thick	INVSLE Combination	-4.8979	-1.0970	-18.45	-	
2.11	887	277 Shell-Thick	INVSLE Combination	-2.6684	-0.4408	-18.45	-	
2.11	887	277 Shell-Thick	INVSLE Combination	-3.4555	-0.2558	-19.85	-	
2.25	887	277 Shell-Thick	INVSLE Combination	-10.5595	-1.5781	-35.47	-	
2.25	887	277 Shell-Thick	INVSLE Combination	-8.8722	-2.1283	-32.22	-	
5.09	887	277 Shell-Thick	INVSLE Combination	-4.9722	-1.0573	-32.22	-	
5.09	887	277 Shell-Thick	INVSLE Combination	-6.4870	-0.6211	-35.47	-	
1.51	888	278 Shell-Thick	INVSLE Combination	-2.6488	-0.1610	-12.61	-	
1.51	888	278 Shell-Thick	INVSLE Combination	-2.2817	-0.4339	-11.57	-	
2.43	888	278 Shell-Thick	INVSLE Combination	-0.8693	0.0336	-11.57	-	
2.43	888	278 Shell-Thick	INVSLE Combination	-1.2133	0.3225	-12.61	-	
2.63	888	278 Shell-Thick	INVSLE Combination	-4.0380	-0.2805	-18.59	-	
2.63	888	278 Shell-Thick	INVSLE Combination	-3.4613	-0.7552	-16.85	-	
4.15	888	278 Shell-Thick	INVSLE Combination	-1.4037	-0.1141	-16.85	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 292 di 416
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4.15	888	278 Shell-Thick	INVSLE Combination	-1.9223	0.2915	-18.59	-
2.05	888	278 Shell-Thick	INVSLE Combination	-3.5759	-0.2173	-17.03	-
2.05	888	278 Shell-Thick	INVSLE Combination	-3.0803	-0.5857	-15.61	-
3.28	888	278 Shell-Thick	INVSLE Combination	-1.1736	0.0454	-15.61	-
3.28	888	278 Shell-Thick	INVSLE Combination	-1.6380	0.4401	-17.03	-
4.90	888	278 Shell-Thick	INVSLE Combination	-6.8816	-0.5251	-30.81	-
4.90	888	278 Shell-Thick	INVSLE Combination	-5.8757	-1.4129	-27.66	-
7.67	888	278 Shell-Thick	INVSLE Combination	-2.4975	-0.4164	-27.66	-
7.67	888	278 Shell-Thick	INVSLE Combination	-3.3737	0.3860	-30.81	-
2.39	889	279 Shell-Thick	INVSLE Combination	-1.3961	0.3452	-10.76	-
2.39	889	279 Shell-Thick	INVSLE Combination	-1.2434	-0.0852	-9.75	-
3.27	889	279 Shell-Thick	INVSLE Combination	-0.0412	0.3435	-9.75	-
3.27	889	279 Shell-Thick	INVSLE Combination	-0.1824	0.8992	-10.76	-
4.06	889	279 Shell-Thick	INVSLE Combination	-2.2215	0.2989	-15.96	-
4.06	889	279 Shell-Thick	INVSLE Combination	-1.9773	-0.3113	-14.31	-
5.51	889	279 Shell-Thick	INVSLE Combination	-0.2143	0.2680	-14.31	-
5.51	889	279 Shell-Thick	INVSLE Combination	-0.4196	0.7204	-15.96	-
3.22	889	279 Shell-Thick	INVSLE Combination	-1.8848	0.4730	-14.53	-
3.22	889	279 Shell-Thick	INVSLE Combination	-1.6786	-0.1150	-13.16	-
4.42	889	279 Shell-Thick	INVSLE Combination	-0.0556	0.4638	-13.16	-
4.42	889	279 Shell-Thick	INVSLE Combination	-0.2462	1.2653	-14.53	-
7.49	889	279 Shell-Thick	INVSLE Combination	-3.9111	0.4036	-26.61	-
7.49	889	279 Shell-Thick	INVSLE Combination	-3.4795	-0.7741	-23.63	-
10.10	889	279 Shell-Thick	INVSLE Combination	-0.5685	0.1135	-23.63	-
10.10	889	279 Shell-Thick	INVSLE Combination	-0.9050	0.9725	-26.61	-
3.23	890	280 Shell-Thick	INVSLE Combination	-0.4174	0.9020	-9.12	-
3.23	890	280 Shell-Thick	INVSLE Combination	-0.4460	0.2226	-8.18	-
4.06	890	280 Shell-Thick	INVSLE Combination	0.6863	0.6022	-8.18	-
4.06	890	280 Shell-Thick	INVSLE Combination	0.7478	1.3958	-9.12	-
5.44	890	280 Shell-Thick	INVSLE Combination	-0.7770	0.7133	-13.61	-
5.44	890	280 Shell-Thick	INVSLE Combination	-0.8149	0.0736	-12.08	-
6.77	890	280 Shell-Thick	INVSLE Combination	0.5712	0.5824	-12.08	-
6.77	890	280 Shell-Thick	INVSLE Combination	0.6025	1.0916	-13.61	-
4.36	890	280 Shell-Thick	INVSLE Combination	-0.5635	1.2882	-12.31	-
4.36	890	280 Shell-Thick	INVSLE Combination	-0.6022	0.3005	-11.04	-
5.48	890	280 Shell-Thick	INVSLE Combination	0.9438	0.8130	-11.04	-
5.48	890	280 Shell-Thick	INVSLE Combination	1.0453	2.0183	-12.31	-
9.95	890	280 Shell-Thick	INVSLE Combination	-1.5130	0.9630	-22.80	-
9.95	890	280 Shell-Thick	INVSLE Combination	-1.5700	-0.2314	-20.08	-

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12.33	890	280 Shell-Thick	INVSLU Combination	0.7712	0.5419	-20.08	-	
12.33	890	280 Shell-Thick	INVSLU Combination	0.8134	1.4737	-22.80	-	
4.02	891	281 Shell-Thick	INVSLE Combination	0.3658	1.3847	-7.66	-	
4.02	891	281 Shell-Thick	INVSLE Combination	0.1652	0.4858	-6.81	-	
4.76	891	281 Shell-Thick	INVSLE Combination	1.3605	0.8324	-6.81	-	
4.76	891	281 Shell-Thick	INVSLE Combination	1.6446	1.8110	-7.66	-	
6.71	891	281 Shell-Thick	INVSLE Combination	0.3429	1.0750	-11.49	-	
6.71	891	281 Shell-Thick	INVSLE Combination	0.0938	0.3986	-10.12	-	
7.91	891	281 Shell-Thick	INVSLE Combination	1.0186	0.8123	-10.12	-	
7.91	891	281 Shell-Thick	INVSLE Combination	1.1927	1.4044	-11.49	-	
5.43	891	281 Shell-Thick	INVSLE Combination	0.4973	2.0185	-10.34	-	
5.43	891	281 Shell-Thick	INVSLE Combination	0.2230	0.6558	-9.19	-	
6.43	891	281 Shell-Thick	INVSLE Combination	2.0602	1.1268	-9.19	-	
6.43	891	281 Shell-Thick	INVSLE Combination	2.5697	2.6434	-10.34	-	
12.20	891	281 Shell-Thick	INVSLE Combination	0.4128	1.4513	-19.34	-	
12.20	891	281 Shell-Thick	INVSLE Combination	-0.0524	0.2203	-16.91	-	
14.33	891	281 Shell-Thick	INVSLE Combination	1.3751	0.8737	-16.91	-	
14.33	891	281 Shell-Thick	INVSLE Combination	1.6101	1.8959	-19.34	-	
4.73	892	282 Shell-Thick	INVSLE Combination	1.2667	1.7910	-6.34	-	
4.73	892	282 Shell-Thick	INVSLE Combination	0.7992	0.7047	-5.60	-	
5.38	892	282 Shell-Thick	INVSLE Combination	1.8541	1.0266	-5.60	-	
5.38	892	282 Shell-Thick	INVSLE Combination	2.3251	2.1512	-6.34	-	
7.85	892	282 Shell-Thick	INVSLE Combination	0.9314	1.3821	-9.57	-	
7.85	892	282 Shell-Thick	INVSLE Combination	0.6306	0.6646	-8.37	-	
8.89	892	282 Shell-Thick	INVSLE Combination	1.3376	0.9783	-8.37	-	
8.89	892	282 Shell-Thick	INVSLE Combination	1.6306	1.6614	-9.57	-	
6.39	892	282 Shell-Thick	INVSLE Combination	1.9530	2.6279	-8.56	-	
6.39	892	282 Shell-Thick	INVSLE Combination	1.1443	0.9513	-7.56	-	
7.27	892	282 Shell-Thick	INVSLE Combination	2.9112	1.3931	-7.56	-	
7.27	892	282 Shell-Thick	INVSLE Combination	3.7466	3.1537	-8.56	-	
14.22	892	282 Shell-Thick	INVSLE Combination	1.2574	1.8659	-16.17	-	
14.22	892	282 Shell-Thick	INVSLE Combination	0.8514	0.5827	-14.06	-	
16.08	892	282 Shell-Thick	INVSLE Combination	1.8058	1.1253	-14.06	-	
16.08	892	282 Shell-Thick	INVSLE Combination	2.2013	2.2429	-16.17	-	
5.36	893	283 Shell-Thick	INVSLE Combination	1.9703	2.1265	-5.15	-	
5.36	893	283 Shell-Thick	INVSLE Combination	1.3458	0.8828	-4.52	-	
5.91	893	283 Shell-Thick	INVSLE Combination	2.2067	1.1706	-4.52	-	
5.91	893	283 Shell-Thick	INVSLE Combination	2.8293	2.4202	-5.15	-	
8.85	893	283 Shell-Thick	INVSLE Combination	1.3832	1.6369	-7.81	-	

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8.85	893	283 Shell-Thick	INVSLE Combination	0.9847	0.8786	-6.80	-
9.73	893	283 Shell-Thick	INVSLE Combination	1.5591	1.1049	-6.80	-
9.73	893	283 Shell-Thick	INVSLE Combination	1.9478	1.8660	-7.81	-
7.23	893	283 Shell-Thick	INVSLE Combination	3.1721	3.1287	-6.95	-
7.23	893	283 Shell-Thick	INVSLE Combination	2.0850	1.1917	-6.10	-
7.98	893	283 Shell-Thick	INVSLE Combination	3.5324	1.5901	-6.10	-
7.98	893	283 Shell-Thick	INVSLE Combination	4.6338	3.5547	-6.95	-
15.98	893	283 Shell-Thick	INVSLE Combination	1.8673	2.2098	-13.24	-
15.98	893	283 Shell-Thick	INVSLE Combination	1.3293	0.8702	-11.46	-
17.55	893	283 Shell-Thick	INVSLE Combination	2.1048	1.3049	-11.46	-
17.55	893	283 Shell-Thick	INVSLE Combination	2.6295	2.5190	-13.24	-
5.89	894	284 Shell-Thick	INVSLE Combination	2.5158	2.3945	-4.06	-
5.89	894	284 Shell-Thick	INVSLE Combination	1.7659	1.0453	-3.55	-
6.34	894	284 Shell-Thick	INVSLE Combination	2.4472	1.2733	-3.55	-
6.34	894	284 Shell-Thick	INVSLE Combination	3.1918	2.6264	-4.06	-
9.69	894	284 Shell-Thick	INVSLE Combination	1.7278	1.8419	-6.17	-
9.69	894	284 Shell-Thick	INVSLE Combination	1.2524	1.0237	-5.35	-
10.41	894	284 Shell-Thick	INVSLE Combination	1.7053	1.1976	-5.35	-
10.41	894	284 Shell-Thick	INVSLE Combination	2.1702	2.0231	-6.17	-
7.95	894	284 Shell-Thick	INVSLE Combination	4.1286	3.5258	-5.48	-
7.95	894	284 Shell-Thick	INVSLE Combination	2.8169	1.4145	-4.79	-
8.55	894	284 Shell-Thick	INVSLE Combination	3.9658	1.7303	-4.79	-
8.55	894	284 Shell-Thick	INVSLE Combination	5.2829	3.8614	-5.48	-
17.47	894	284 Shell-Thick	INVSLE Combination	2.3326	2.4866	-10.50	-
17.47	894	284 Shell-Thick	INVSLE Combination	1.6908	1.0897	-9.05	-
18.74	894	284 Shell-Thick	INVSLE Combination	2.3022	1.4281	-9.05	-
18.74	894	284 Shell-Thick	INVSLE Combination	2.9298	2.7312	-10.50	-
6.32	895	285 Shell-Thick	INVSLE Combination	2.9303	2.6027	-3.04	-
6.32	895	285 Shell-Thick	INVSLE Combination	2.0871	1.1727	-2.65	-
6.66	895	285 Shell-Thick	INVSLE Combination	2.5996	1.3406	-2.65	-
6.66	895	285 Shell-Thick	INVSLE Combination	3.4363	2.7753	-3.04	-
10.38	895	285 Shell-Thick	INVSLE Combination	1.9865	2.0017	-4.64	-
10.38	895	285 Shell-Thick	INVSLE Combination	1.4545	1.1322	-4.01	-
10.93	895	285 Shell-Thick	INVSLE Combination	1.7941	1.2610	-4.01	-
10.93	895	285 Shell-Thick	INVSLE Combination	2.3165	2.1372	-4.64	-
8.53	895	285 Shell-Thick	INVSLE Combination	4.8623	3.8330	-4.10	-
8.53	895	285 Shell-Thick	INVSLE Combination	3.3821	1.5892	-3.57	-
8.99	895	285 Shell-Thick	INVSLE Combination	4.2483	1.8218	-3.57	-
8.99	895	285 Shell-Thick	INVSLE Combination	5.7285	4.0815	-4.10	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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7.04	898	288 Shell-Thick	INVSLE Combination	3.6264	2.9326	-0.25	-	
11.48	898	288 Shell-Thick	INVSLE Combination	2.3928	2.2462	-0.38	-	
11.48	898	288 Shell-Thick	INVSLE Combination	1.7878	1.3019	-0.33	-	
11.53	898	288 Shell-Thick	INVSLE Combination	1.8164	1.3114	-0.33	-	
11.53	898	288 Shell-Thick	INVSLE Combination	2.4192	2.2572	-0.38	-	
9.47	898	288 Shell-Thick	INVSLE Combination	6.0287	4.2942	-0.34	-	
9.47	898	288 Shell-Thick	INVSLE Combination	4.3171	1.8627	-0.29	-	
9.51	898	288 Shell-Thick	INVSLE Combination	4.3906	1.8796	-0.29	-	
9.51	898	288 Shell-Thick	INVSLE Combination	6.0976	4.3152	-0.34	-	
20.64	898	288 Shell-Thick	INVSLE Combination	3.2303	3.0324	-0.65	-	
20.64	898	288 Shell-Thick	INVSLE Combination	2.4135	1.5154	-0.56	-	
20.72	898	288 Shell-Thick	INVSLE Combination	2.4521	1.5333	-0.56	-	
20.72	898	288 Shell-Thick	INVSLE Combination	3.2659	3.0472	-0.65	-	
7.04	899	289 Shell-Thick	INVSLE Combination	3.6420	2.9333	1.00	-	
7.04	899	289 Shell-Thick	INVSLE Combination	2.6813	1.3907	0.86	-	
6.97	899	289 Shell-Thick	INVSLE Combination	2.5726	1.3541	0.86	-	
6.97	899	289 Shell-Thick	INVSLE Combination	3.5323	2.8972	1.00	-	
11.53	899	289 Shell-Thick	INVSLE Combination	2.4302	2.2581	0.65	-	
11.53	899	289 Shell-Thick	INVSLE Combination	1.8305	1.3156	0.56	-	
11.41	899	289 Shell-Thick	INVSLE Combination	1.7587	1.2874	0.56	-	
11.41	899	289 Shell-Thick	INVSLE Combination	2.3593	2.2292	0.65	-	
9.51	899	289 Shell-Thick	INVSLE Combination	6.1225	4.3154	1.71	-	
9.51	899	289 Shell-Thick	INVSLE Combination	4.4229	1.8888	1.46	-	
9.41	899	289 Shell-Thick	INVSLE Combination	4.2385	1.8380	1.46	-	
9.41	899	289 Shell-Thick	INVSLE Combination	5.9334	4.2644	1.71	-	
20.72	899	289 Shell-Thick	INVSLE Combination	3.2808	3.0484	0.88	-	
20.72	899	289 Shell-Thick	INVSLE Combination	2.4712	1.5446	0.76	-	
20.51	899	289 Shell-Thick	INVSLE Combination	2.3743	1.4905	0.76	-	
20.51	899	289 Shell-Thick	INVSLE Combination	3.1851	3.0095	0.88	-	
6.98	900	290 Shell-Thick	INVSLE Combination	3.6222	2.9050	2.39	-	
6.98	900	290 Shell-Thick	INVSLE Combination	2.6905	1.3878	2.06	-	
6.80	900	290 Shell-Thick	INVSLE Combination	2.4282	1.3007	2.06	-	
6.80	900	290 Shell-Thick	INVSLE Combination	3.3606	2.8173	2.39	-	
11.42	900	290 Shell-Thick	INVSLE Combination	2.4224	2.2364	1.56	-	
11.42	900	290 Shell-Thick	INVSLE Combination	1.8413	1.3093	1.35	-	
11.14	900	290 Shell-Thick	INVSLE Combination	1.6680	1.2424	1.35	-	
11.14	900	290 Shell-Thick	INVSLE Combination	2.2528	2.1670	1.56	-	
9.42	900	290 Shell-Thick	INVSLE Combination	6.0781	4.2734	4.09	-	
9.42	900	290 Shell-Thick	INVSLE Combination	4.4290	1.8853	3.51	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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9.17	900	290 Shell-Thick	INVSLU Combination	3.9844	1.7647	3.51	-	
9.17	900	290 Shell-Thick	INVSLU Combination	5.6281	4.1483	4.09	-	
20.53	900	290 Shell-Thick	INVSLU Combination	3.2703	3.0192	2.10	-	
20.53	900	290 Shell-Thick	INVSLU Combination	2.4857	1.5485	1.83	-	
20.02	900	290 Shell-Thick	INVSLU Combination	2.2518	1.4200	1.83	-	
20.02	900	290 Shell-Thick	INVSLU Combination	3.0413	2.9255	2.10	-	
20.02	901	291 Shell-Thick	INVSLE Combination	3.5201	2.8314	3.82	-	
6.81	901	291 Shell-Thick	INVSLE Combination	2.6431	1.3614	3.30	-	
6.81	901	291 Shell-Thick	INVSLE Combination	2.2233	1.2215	3.30	-	
6.52	901	291 Shell-Thick	INVSLE Combination	3.1017	2.6903	3.82	-	
6.52	901	291 Shell-Thick	INVSLE Combination	2.3651	2.1800	2.50	-	
11.16	901	291 Shell-Thick	INVSLE Combination	1.8179	1.2819	2.17	-	
11.16	901	291 Shell-Thick	INVSLE Combination	1.5400	1.1745	2.17	-	
10.70	901	291 Shell-Thick	INVSLE Combination	2.0932	2.0685	2.50	-	
10.70	901	291 Shell-Thick	INVSLU Combination	5.8842	4.1649	6.52	-	
9.19	901	291 Shell-Thick	INVSLU Combination	4.3322	1.8498	5.60	-	
9.19	901	291 Shell-Thick	INVSLU Combination	3.6218	1.6561	5.60	-	
8.80	901	291 Shell-Thick	INVSLU Combination	5.1662	3.9631	6.52	-	
8.80	901	291 Shell-Thick	INVSLU Combination	3.1929	2.9430	3.37	-	
20.06	901	291 Shell-Thick	INVSLU Combination	2.4541	1.5242	2.93	-	
20.06	901	291 Shell-Thick	INVSLU Combination	2.0790	1.3177	2.93	-	
19.25	901	291 Shell-Thick	INVSLU Combination	2.8258	2.7925	3.37	-	
19.25	902	292 Shell-Thick	INVSLE Combination	3.3274	2.7096	5.31	-	
6.54	902	292 Shell-Thick	INVSLE Combination	2.5287	1.3085	4.60	-	
6.54	902	292 Shell-Thick	INVSLE Combination	1.9451	1.1110	4.60	-	
6.15	902	292 Shell-Thick	INVSLE Combination	2.7447	2.5111	5.31	-	
6.15	902	292 Shell-Thick	INVSLE Combination	2.2517	2.0864	3.48	-	
10.73	902	292 Shell-Thick	INVSLE Combination	1.7532	1.2310	3.04	-	
10.73	902	292 Shell-Thick	INVSLE Combination	1.3659	1.0802	3.04	-	
10.10	902	292 Shell-Thick	INVSLE Combination	1.8717	1.9304	3.48	-	
10.10	902	292 Shell-Thick	INVSLU Combination	5.5293	3.9852	9.05	-	
8.82	902	292 Shell-Thick	INVSLU Combination	4.1162	1.7781	7.79	-	
8.82	902	292 Shell-Thick	INVSLU Combination	3.1306	1.5045	7.79	-	
8.30	902	292 Shell-Thick	INVSLU Combination	4.5317	3.6997	9.05	-	
8.30	902	292 Shell-Thick	INVSLU Combination	3.0398	2.8166	4.70	-	
19.31	902	292 Shell-Thick	INVSLU Combination	2.3668	1.4671	4.10	-	
19.31	902	292 Shell-Thick	INVSLU Combination	1.8440	1.1742	4.10	-	
18.20	902	292 Shell-Thick	INVSLU Combination	2.5267	2.6061	4.70	-	
18.20	902	292 Shell-Thick	INVSLU Combination	3.0269	2.5334	6.88	-	
6.17	903	293 Shell-Thick	INVSLE Combination					

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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6.17	903	293 Shell-Thick	INVSLE Combination	2.3352	1.2232	5.98	-	
5.68	903	293 Shell-Thick	INVSLE Combination	1.5787	0.9643	5.98	-	
5.68	903	293 Shell-Thick	INVSLE Combination	2.2689	2.2749	6.88	-	
10.14	903	293 Shell-Thick	INVSLE Combination	2.0697	1.9517	4.53	-	
10.14	903	293 Shell-Thick	INVSLE Combination	1.6379	1.1529	3.96	-	
9.35	903	293 Shell-Thick	INVSLE Combination	1.1342	0.9555	3.96	-	
9.35	903	293 Shell-Thick	INVSLE Combination	1.5733	1.7491	4.53	-	
8.33	903	293 Shell-Thick	INVSLE Combination	4.9863	3.7241	11.70	-	
8.33	903	293 Shell-Thick	INVSLE Combination	3.7627	1.6619	10.10	-	
7.66	903	293 Shell-Thick	INVSLE Combination	2.4886	1.3030	10.10	-	
7.66	903	293 Shell-Thick	INVSLE Combination	3.6928	3.3512	11.70	-	
18.27	903	293 Shell-Thick	INVSLE Combination	2.7941	2.6348	6.11	-	
18.27	903	293 Shell-Thick	INVSLE Combination	2.2111	1.3672	5.35	-	
16.87	903	293 Shell-Thick	INVSLE Combination	1.5311	0.9821	5.35	-	
16.87	903	293 Shell-Thick	INVSLE Combination	2.1240	2.3613	6.11	-	
5.70	904	294 Shell-Thick	INVSLE Combination	2.5982	2.2975	8.57	-	
5.70	904	294 Shell-Thick	INVSLE Combination	2.0418	1.1001	7.48	-	
5.10	904	294 Shell-Thick	INVSLE Combination	1.1002	0.7958	7.48	-	
5.10	904	294 Shell-Thick	INVSLE Combination	1.6506	1.9743	8.57	-	
9.40	904	294 Shell-Thick	INVSLE Combination	1.8033	1.7718	5.66	-	
9.40	904	294 Shell-Thick	INVSLE Combination	1.4565	1.0433	4.98	-	
8.44	904	294 Shell-Thick	INVSLE Combination	0.8270	0.7734	4.98	-	
8.44	904	294 Shell-Thick	INVSLE Combination	1.1797	1.5200	5.66	-	
7.69	904	294 Shell-Thick	INVSLE Combination	4.2254	3.3737	14.52	-	
7.69	904	294 Shell-Thick	INVSLE Combination	3.2400	1.4936	12.58	-	
6.89	904	294 Shell-Thick	INVSLE Combination	1.6593	1.0743	12.58	-	
6.89	904	294 Shell-Thick	INVSLE Combination	2.6145	2.9041	14.52	-	
16.96	904	294 Shell-Thick	INVSLE Combination	2.4344	2.3919	7.64	-	
16.96	904	294 Shell-Thick	INVSLE Combination	1.9663	1.2164	6.72	-	
15.27	904	294 Shell-Thick	INVSLE Combination	1.1165	0.7275	6.72	-	
15.27	904	294 Shell-Thick	INVSLE Combination	1.5926	2.0520	7.64	-	
5.13	905	295 Shell-Thick	INVSLE Combination	2.0109	1.9938	10.39	-	
5.13	905	295 Shell-Thick	INVSLE Combination	1.6234	0.9305	9.12	-	
4.44	905	295 Shell-Thick	INVSLE Combination	0.4809	0.5970	9.12	-	
4.44	905	295 Shell-Thick	INVSLE Combination	0.8552	1.6049	10.39	-	
8.50	905	295 Shell-Thick	INVSLE Combination	1.4296	1.5416	6.90	-	
8.50	905	295 Shell-Thick	INVSLE Combination	1.1899	0.8967	6.11	-	
7.38	905	295 Shell-Thick	INVSLE Combination	0.4225	0.5333	6.11	-	
7.38	905	295 Shell-Thick	INVSLE Combination	0.6649	1.2397	6.90	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 299 di 416
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6.93	905	295 Shell-Thick	INVSLU Combination	3.2007	2.9196	17.54	-	
6.93	905	295 Shell-Thick	INVSLU Combination	2.5107	1.2612	15.28	-	
6.00	905	295 Shell-Thick	INVSLU Combination	0.6580	0.8059	15.28	-	
6.00	905	295 Shell-Thick	INVSLU Combination	1.2448	2.3524	17.54	-	
15.38	905	295 Shell-Thick	INVSLU Combination	1.9300	2.0812	9.31	-	
15.38	905	295 Shell-Thick	INVSLU Combination	1.6064	0.9996	8.25	-	
13.40	905	295 Shell-Thick	INVSLU Combination	0.5704	0.4029	8.25	-	
13.40	905	295 Shell-Thick	INVSLU Combination	0.8976	1.6736	9.31	-	
4.48	906	296 Shell-Thick	INVSLE Combination	1.2291	1.6174	12.39	-	
4.48	906	296 Shell-Thick	INVSLE Combination	1.0449	0.7084	10.95	-	
3.70	906	296 Shell-Thick	INVSLE Combination	-0.1097	0.3550	10.95	-	
3.70	906	296 Shell-Thick	INVSLE Combination	-0.0025	1.1603	12.39	-	
7.45	906	296 Shell-Thick	INVSLE Combination	0.9208	1.2572	8.27	-	
7.45	906	296 Shell-Thick	INVSLE Combination	0.8110	0.7083	7.38	-	
6.19	906	296 Shell-Thick	INVSLE Combination	-0.3184	0.2363	7.38	-	
6.19	906	296 Shell-Thick	INVSLE Combination	-0.1574	0.9051	8.27	-	
6.04	906	296 Shell-Thick	INVSLU Combination	1.8603	2.3548	20.83	-	
6.04	906	296 Shell-Thick	INVSLU Combination	1.5237	0.9563	18.26	-	
4.99	906	296 Shell-Thick	INVSLU Combination	-0.1481	0.4793	18.26	-	
4.99	906	296 Shell-Thick	INVSLU Combination	-0.0033	1.6826	20.83	-	
13.53	906	296 Shell-Thick	INVSLU Combination	1.2431	1.6972	11.17	-	
13.53	906	296 Shell-Thick	INVSLU Combination	1.0948	0.7083	9.97	-	
11.28	906	296 Shell-Thick	INVSLU Combination	-0.7454	-0.0066	9.97	-	
11.28	906	296 Shell-Thick	INVSLU Combination	-0.4745	1.2219	11.17	-	
3.74	907	297 Shell-Thick	INVSLE Combination	0.2393	1.1610	14.61	-	
3.74	907	297 Shell-Thick	INVSLE Combination	0.2872	0.4731	13.02	-	
2.88	907	297 Shell-Thick	INVSLE Combination	-0.8056	0.0679	13.02	-	
2.88	907	297 Shell-Thick	INVSLE Combination	-0.8639	0.6402	14.61	-	
6.26	907	297 Shell-Thick	INVSLE Combination	0.2048	0.9147	9.81	-	
6.26	907	297 Shell-Thick	INVSLE Combination	0.2651	0.4247	8.83	-	
4.87	907	297 Shell-Thick	INVSLE Combination	-1.3433	-0.1202	8.83	-	
4.87	907	297 Shell-Thick	INVSLE Combination	-1.4407	0.5161	9.81	-	
5.04	907	297 Shell-Thick	INVSLU Combination	0.3231	1.6651	24.43	-	
5.04	907	297 Shell-Thick	INVSLU Combination	0.3877	0.6387	21.59	-	
3.89	907	297 Shell-Thick	INVSLU Combination	-1.0876	0.0917	21.59	-	
3.89	907	297 Shell-Thick	INVSLU Combination	-1.1663	0.8942	24.43	-	
11.43	907	297 Shell-Thick	INVSLU Combination	0.1342	1.2349	13.25	-	
11.43	907	297 Shell-Thick	INVSLU Combination	0.2198	0.3257	11.93	-	
8.94	907	297 Shell-Thick	INVSLU Combination	-2.4439	-0.5054	11.93	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 300 di 416
8.94	907	297 Shell-Thick	INVSLU Combination	-2.6213	0.6967	13.25	-	
2.93	908	298 Shell-Thick	INVSLE Combination	-0.6606	0.6235	17.07	-	
2.93	908	298 Shell-Thick	INVSLE Combination	-0.4258	0.1873	15.37	-	
2.02	908	298 Shell-Thick	INVSLE Combination	-1.7136	-0.2629	15.37	-	
2.02	908	298 Shell-Thick	INVSLE Combination	-1.9692	0.0765	17.07	-	
4.96	908	298 Shell-Thick	INVSLE Combination	-1.1199	0.5133	11.54	-	
4.96	908	298 Shell-Thick	INVSLE Combination	-0.7708	0.0751	10.51	-	
3.47	908	298 Shell-Thick	INVSLE Combination	-2.6541	-0.5384	10.51	-	
3.47	908	298 Shell-Thick	INVSLE Combination	-3.0578	0.0459	11.54	-	
3.95	908	298 Shell-Thick	INVSLE Combination	-0.8918	0.8583	28.40	-	
3.95	908	298 Shell-Thick	INVSLE Combination	-0.5748	0.2529	25.33	-	
2.73	908	298 Shell-Thick	INVSLE Combination	-2.3134	-0.3549	25.33	-	
2.73	908	298 Shell-Thick	INVSLE Combination	-2.6584	0.1033	28.40	-	
9.11	908	298 Shell-Thick	INVSLE Combination	-2.0602	0.6930	15.58	-	
9.11	908	298 Shell-Thick	INVSLE Combination	-1.4771	-0.1547	14.18	-	
6.43	908	298 Shell-Thick	INVSLE Combination	-4.5791	-1.1023	14.18	-	
6.43	908	298 Shell-Thick	INVSLE Combination	-5.2860	-0.0169	15.58	-	
2.07	909	299 Shell-Thick	INVSLE Combination	-1.8399	0.0556	19.82	-	
2.07	909	299 Shell-Thick	INVSLE Combination	-1.3830	-0.1501	18.06	-	
1.15	909	299 Shell-Thick	INVSLE Combination	-2.8926	-0.6310	18.06	-	
1.15	909	299 Shell-Thick	INVSLE Combination	-3.3838	-0.4027	19.82	-	
3.56	909	299 Shell-Thick	INVSLE Combination	-2.8224	0.0048	13.49	-	
3.56	909	299 Shell-Thick	INVSLE Combination	-2.1305	-0.3456	12.44	-	
2.02	909	299 Shell-Thick	INVSLE Combination	-4.3231	-1.0102	12.44	-	
2.02	909	299 Shell-Thick	INVSLE Combination	-5.0916	-0.6093	13.49	-	
2.80	909	299 Shell-Thick	INVSLE Combination	-2.4839	0.0751	32.79	-	
2.80	909	299 Shell-Thick	INVSLE Combination	-1.8671	-0.2026	29.58	-	
1.56	909	299 Shell-Thick	INVSLE Combination	-3.9050	-0.8518	29.58	-	
1.56	909	299 Shell-Thick	INVSLE Combination	-4.5681	-0.5437	32.79	-	
6.61	909	299 Shell-Thick	INVSLE Combination	-4.8333	-0.0992	18.21	-	
6.61	909	299 Shell-Thick	INVSLE Combination	-3.6605	-0.7457	16.79	-	
3.80	909	299 Shell-Thick	INVSLE Combination	-7.2513	-1.7865	16.79	-	
3.80	909	299 Shell-Thick	INVSLE Combination	-8.5875	-1.0321	18.21	-	
1.22	910	300 Shell-Thick	INVSLE Combination	-3.4377	-0.4775	23.78	-	
1.22	910	300 Shell-Thick	INVSLE Combination	-2.6419	-0.5169	21.96	-	
0.24	910	300 Shell-Thick	INVSLE Combination	-5.4151	-1.2186	21.96	-	
0.24	910	300 Shell-Thick	INVSLE Combination	-6.2402	-1.1125	23.78	-	
2.16	910	300 Shell-Thick	INVSLE Combination	-5.0677	-0.7275	16.31	-	
2.16	910	300 Shell-Thick	INVSLE Combination	-3.8393	-0.7905	15.27	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 301 di 416
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0.14	910	300 Shell-Thick	INVSLE Combination	-7.8475	-1.7958	15.27		
0.14	910	300 Shell-Thick	INVSLE Combination	-9.1341	-1.6005	16.31		
1.65	910	300 Shell-Thick	INVSLE Combination	-4.6409	-0.6446	39.07	-	
1.65	910	300 Shell-Thick	INVSLE Combination	-3.5666	-0.6978	35.64	-	
0.43	910	300 Shell-Thick	INVSLE Combination	-7.3103	-1.6451	35.64		
0.43	910	300 Shell-Thick	INVSLE Combination	-8.4243	-1.5018	39.07		
4.07	910	300 Shell-Thick	INVSLE Combination	-8.4042	-1.2392	22.02	-	
4.07	910	300 Shell-Thick	INVSLE Combination	-6.2902	-1.3505	20.62	-	
0.19	910	300 Shell-Thick	INVSLE Combination	-12.8265	-2.9773	20.62		
0.19	910	300 Shell-Thick	INVSLE Combination	-15.0577	-2.5995	22.02		
0.24	920	301 Shell-Thick	INVSLE Combination	-5.2895	-0.9138	-16.11		
0.24	920	301 Shell-Thick	INVSLE Combination	-4.2587	-0.9959	-14.69		
1.10	920	301 Shell-Thick	INVSLE Combination	-2.4732	-0.5743	-14.69	-	
1.10	920	301 Shell-Thick	INVSLE Combination	-3.4476	-0.5292	-16.11	-	
0.15	920	301 Shell-Thick	INVSLE Combination	-7.6233	-1.2988	-23.12		
0.15	920	301 Shell-Thick	INVSLE Combination	-6.0625	-1.4383	-20.81		
1.78	920	301 Shell-Thick	INVSLE Combination	-3.5294	-0.8432	-20.81	-	
1.78	920	301 Shell-Thick	INVSLE Combination	-4.9828	-0.7745	-23.12	-	
0.41	920	301 Shell-Thick	INVSLE Combination	-7.1409	-1.2336	-21.75		
0.41	920	301 Shell-Thick	INVSLE Combination	-5.7493	-1.3445	-19.83		
1.48	920	301 Shell-Thick	INVSLE Combination	-3.3388	-0.7753	-19.83	-	
1.48	920	301 Shell-Thick	INVSLE Combination	-4.6543	-0.7144	-21.75	-	
0.20	920	301 Shell-Thick	INVSLE Combination	-12.4004	-2.0871	-37.46		
0.20	920	301 Shell-Thick	INVSLE Combination	-9.7548	-2.3439	-33.34		
3.19	920	301 Shell-Thick	INVSLE Combination	-5.6914	-1.3935	-33.34	-	
3.19	920	301 Shell-Thick	INVSLE Combination	-8.1253	-1.2765	-37.46	-	
1.03	921	302 Shell-Thick	INVSLE Combination	-3.5182	-0.4796	-13.70	-	
1.03	921	302 Shell-Thick	INVSLE Combination	-2.8629	-0.7160	-12.23	-	
2.32	921	302 Shell-Thick	INVSLE Combination	-1.3531	-0.3077	-12.23	-	
2.32	921	302 Shell-Thick	INVSLE Combination	-1.9734	-0.0940	-13.70	-	
1.66	921	302 Shell-Thick	INVSLE Combination	-5.1792	-0.7009	-19.81	-	
1.66	921	302 Shell-Thick	INVSLE Combination	-4.1802	-1.0862	-17.48	-	
3.70	921	302 Shell-Thick	INVSLE Combination	-2.0220	-0.5287	-17.48	-	
3.70	921	302 Shell-Thick	INVSLE Combination	-2.9462	-0.1923	-19.81	-	
1.39	921	302 Shell-Thick	INVSLE Combination	-4.7495	-0.6474	-18.50	-	
1.39	921	302 Shell-Thick	INVSLE Combination	-3.8650	-0.9666	-16.51	-	
3.13	921	302 Shell-Thick	INVSLE Combination	-1.8267	-0.4154	-16.51	-	
3.13	921	302 Shell-Thick	INVSLE Combination	-2.6641	-0.1269	-18.50	-	
2.96	921	302 Shell-Thick	INVSLE Combination	-8.5794	-1.1538	-32.30	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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2.96	921	302 Shell-Thick	INVSLU Combination	-6.8767	-1.8441	-28.22	-
6.54	921	302 Shell-Thick	INVSLU Combination	-3.3910	-0.9810	-28.22	-
6.54	921	302 Shell-Thick	INVSLU Combination	-4.9374	-0.3934	-32.30	-
2.25	922	303 Shell-Thick	INVSLE Combination	-2.1597	-0.0683	-11.61	-
2.25	922	303 Shell-Thick	INVSLE Combination	-1.8076	-0.4616	-10.17	-
3.51	922	303 Shell-Thick	INVSLE Combination	-0.5341	-0.0960	-10.17	-
3.51	922	303 Shell-Thick	INVSLE Combination	-0.8678	0.3057	-11.61	-
3.59	922	303 Shell-Thick	INVSLE Combination	-3.2714	-0.1480	-16.91	-
3.59	922	303 Shell-Thick	INVSLE Combination	-2.7247	-0.7785	-14.66	-
5.55	922	303 Shell-Thick	INVSLE Combination	-0.8904	-0.2931	-14.66	-
5.55	922	303 Shell-Thick	INVSLE Combination	-1.3881	0.2857	-16.91	-
3.04	922	303 Shell-Thick	INVSLE Combination	-2.9155	-0.0922	-15.67	-
3.04	922	303 Shell-Thick	INVSLE Combination	-2.4402	-0.6231	-13.73	-
4.74	922	303 Shell-Thick	INVSLE Combination	-0.7210	-0.1295	-13.73	-
4.74	922	303 Shell-Thick	INVSLE Combination	-1.1716	0.4157	-15.67	-
6.32	922	303 Shell-Thick	INVSLE Combination	-5.5471	-0.3112	-27.75	-
6.32	922	303 Shell-Thick	INVSLE Combination	-4.6021	-1.4274	-23.85	-
9.74	922	303 Shell-Thick	INVSLE Combination	-1.6198	-0.6967	-23.85	-
9.74	922	303 Shell-Thick	INVSLE Combination	-2.4531	0.3466	-27.75	-
3.45	923	304 Shell-Thick	INVSLE Combination	-1.1170	0.3284	-9.80	-
3.45	923	304 Shell-Thick	INVSLE Combination	-1.0116	-0.2500	-8.45	-
4.63	923	304 Shell-Thick	INVSLE Combination	0.0602	0.0609	-8.45	-
4.63	923	304 Shell-Thick	INVSLE Combination	-0.0399	0.7154	-9.80	-
5.45	923	304 Shell-Thick	INVSLE Combination	-1.7788	0.2945	-14.37	-
5.45	923	304 Shell-Thick	INVSLE Combination	-1.6013	-0.5361	-12.28	-
7.28	923	304 Shell-Thick	INVSLE Combination	-0.0460	-0.1312	-12.28	-
7.28	923	304 Shell-Thick	INVSLE Combination	-0.1954	0.6025	-14.37	-
4.66	923	304 Shell-Thick	INVSLE Combination	-1.5080	0.4484	-13.22	-
4.66	923	304 Shell-Thick	INVSLE Combination	-1.3656	-0.3375	-11.41	-
6.25	923	304 Shell-Thick	INVSLE Combination	0.0813	0.0822	-11.41	-
6.25	923	304 Shell-Thick	INVSLE Combination	-0.0538	0.9827	-13.22	-
9.54	923	304 Shell-Thick	INVSLE Combination	-3.1333	0.3975	-23.73	-
9.54	923	304 Shell-Thick	INVSLE Combination	-2.8083	-1.1216	-20.12	-
12.70	923	304 Shell-Thick	INVSLE Combination	-0.2636	-0.5244	-20.12	-
12.70	923	304 Shell-Thick	INVSLE Combination	-0.5137	0.8133	-23.73	-
4.57	924	305 Shell-Thick	INVSLE Combination	-0.3216	0.7210	-8.22	-
4.57	924	305 Shell-Thick	INVSLE Combination	-0.4131	-0.0862	-7.01	-
5.64	924	305 Shell-Thick	INVSLE Combination	0.5752	0.1696	-7.01	-
5.64	924	305 Shell-Thick	INVSLE Combination	0.7089	1.0396	-8.22	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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7.18	924	305 Shell-Thick	INVSLE Combination	-0.6166	0.5986	-12.14	-
7.18	924	305 Shell-Thick	INVSLE Combination	-0.7379	-0.3594	-10.26	-
8.83	924	305 Shell-Thick	INVSLE Combination	0.4856	-0.0333	-10.26	-
8.83	924	305 Shell-Thick	INVSLE Combination	0.5731	0.8577	-12.14	-
6.17	924	305 Shell-Thick	INVSLE Combination	-0.4341	0.9917	-11.10	-
6.17	924	305 Shell-Thick	INVSLE Combination	-0.5577	-0.1164	-9.46	-
7.61	924	305 Shell-Thick	INVSLE Combination	0.7900	0.2290	-9.46	-
7.61	924	305 Shell-Thick	INVSLE Combination	0.9870	1.4308	-11.10	-
12.52	924	305 Shell-Thick	INVSLE Combination	-1.2205	0.8081	-20.17	-
12.52	924	305 Shell-Thick	INVSLE Combination	-1.4027	-0.9185	-16.92	-
15.37	924	305 Shell-Thick	INVSLE Combination	0.6556	-0.4487	-16.92	-
15.37	924	305 Shell-Thick	INVSLE Combination	0.7736	1.1579	-20.17	-
5.59	925	306 Shell-Thick	INVSLE Combination	0.2853	1.0319	-6.85	-
5.59	925	306 Shell-Thick	INVSLE Combination	0.0307	0.0337	-5.78	-
6.53	925	306 Shell-Thick	INVSLE Combination	1.0180	0.2385	-5.78	-
6.53	925	306 Shell-Thick	INVSLE Combination	1.3869	1.2888	-6.85	-
8.75	925	306 Shell-Thick	INVSLE Combination	0.2832	0.8447	-10.18	-
8.75	925	306 Shell-Thick	INVSLE Combination	-0.0832	-0.2420	-8.52	-
10.20	925	306 Shell-Thick	INVSLE Combination	0.7796	0.0144	-8.52	-
10.20	925	306 Shell-Thick	INVSLE Combination	1.0214	1.0571	-10.18	-
7.55	925	306 Shell-Thick	INVSLE Combination	0.3854	1.4212	-9.24	-
7.55	925	306 Shell-Thick	INVSLE Combination	0.0414	0.0456	-7.80	-
8.81	925	306 Shell-Thick	INVSLE Combination	1.5058	0.3219	-7.80	-
8.81	925	306 Shell-Thick	INVSLE Combination	2.1352	1.7747	-9.24	-
15.22	925	306 Shell-Thick	INVSLE Combination	0.2895	1.1403	-17.00	-
15.22	925	306 Shell-Thick	INVSLE Combination	-0.3163	-0.8066	-14.14	-
17.72	925	306 Shell-Thick	INVSLE Combination	1.0525	-0.4441	-14.14	-
17.72	925	306 Shell-Thick	INVSLE Combination	1.3789	1.4271	-17.00	-
6.49	926	307 Shell-Thick	INVSLE Combination	0.9792	1.2720	-5.64	-
6.49	926	307 Shell-Thick	INVSLE Combination	0.4118	0.1168	-4.72	-
7.29	926	307 Shell-Thick	INVSLE Combination	1.3243	0.2748	-4.72	-
7.29	926	307 Shell-Thick	INVSLE Combination	1.8844	1.4710	-5.64	-
10.13	926	307 Shell-Thick	INVSLE Combination	0.7390	1.0382	-8.43	-
10.13	926	307 Shell-Thick	INVSLE Combination	0.3591	-0.1715	-7.01	-
11.38	926	307 Shell-Thick	INVSLE Combination	0.9764	0.0219	-7.01	-
11.38	926	307 Shell-Thick	INVSLE Combination	1.3416	1.2065	-8.43	-
8.76	926	307 Shell-Thick	INVSLE Combination	1.4709	1.7522	-7.61	-
8.76	926	307 Shell-Thick	INVSLE Combination	0.5638	0.1577	-6.37	-
9.84	926	307 Shell-Thick	INVSLE Combination	2.0366	0.3710	-6.37	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.diPag. 304 di 416
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9.84	926	307 Shell-Thick	INVSLE Combination	2.9956	2.0255	-7.61	-
17.60	926	307 Shell-Thick	INVSLE Combination	0.9977	1.4016	-14.14	-
17.60	926	307 Shell-Thick	INVSLE Combination	0.4848	-0.7616	-11.69	-
19.74	926	307 Shell-Thick	INVSLE Combination	1.3181	-0.4959	-11.69	-
19.74	926	307 Shell-Thick	INVSLE Combination	1.8112	1.6288	-14.14	-
7.26	927	308 Shell-Thick	INVSLE Combination	1.5111	1.4491	-4.55	-
7.26	927	308 Shell-Thick	INVSLE Combination	0.7847	0.1694	-3.79	-
7.93	927	308 Shell-Thick	INVSLE Combination	1.5270	0.2877	-3.79	-
7.93	927	308 Shell-Thick	INVSLE Combination	2.2413	1.5995	-4.55	-
11.32	927	308 Shell-Thick	INVSLE Combination	1.0814	1.1850	-6.84	-
11.32	927	308 Shell-Thick	INVSLE Combination	0.6015	-0.1389	-5.66	-
12.36	927	308 Shell-Thick	INVSLE Combination	1.1012	0.0027	-5.66	-
12.36	927	308 Shell-Thick	INVSLE Combination	1.5647	1.3147	-6.84	-
9.80	927	308 Shell-Thick	INVSLE Combination	2.3907	1.9960	-6.15	-
9.80	927	308 Shell-Thick	INVSLE Combination	1.1596	0.2287	-5.12	-
10.70	927	308 Shell-Thick	INVSLE Combination	2.3987	0.3884	-5.12	-
10.70	927	308 Shell-Thick	INVSLE Combination	3.6262	2.2020	-6.15	-
19.64	927	308 Shell-Thick	INVSLE Combination	1.4599	1.5997	-11.53	-
19.64	927	308 Shell-Thick	INVSLE Combination	0.8120	-0.7698	-9.48	-
21.43	927	308 Shell-Thick	INVSLE Combination	1.4866	-0.5806	-9.48	-
21.43	927	308 Shell-Thick	INVSLE Combination	2.1124	1.7748	-11.53	-
7.91	928	309 Shell-Thick	INVSLE Combination	1.9148	1.5762	-3.57	-
7.91	928	309 Shell-Thick	INVSLE Combination	1.0668	0.1996	-2.96	-
8.44	928	309 Shell-Thick	INVSLE Combination	1.6527	0.2847	-2.96	-
8.44	928	309 Shell-Thick	INVSLE Combination	2.4868	1.6847	-3.57	-
12.32	928	309 Shell-Thick	INVSLE Combination	1.3366	1.2932	-5.39	-
12.32	928	309 Shell-Thick	INVSLE Combination	0.7814	-0.1313	-4.44	-
13.15	928	309 Shell-Thick	INVSLE Combination	1.1743	-0.0326	-4.44	-
13.15	928	309 Shell-Thick	INVSLE Combination	1.7134	1.3892	-5.39	-
10.67	928	309 Shell-Thick	INVSLE Combination	3.0983	2.1703	-4.82	-
10.67	928	309 Shell-Thick	INVSLE Combination	1.6508	0.2695	-4.00	-
11.40	928	309 Shell-Thick	INVSLE Combination	2.6321	0.3843	-4.00	-
11.40	928	309 Shell-Thick	INVSLE Combination	4.0698	2.3186	-4.82	-
21.35	928	309 Shell-Thick	INVSLE Combination	1.8044	1.7458	-9.11	-
21.35	928	309 Shell-Thick	INVSLE Combination	1.0550	-0.8088	-7.47	-
22.79	928	309 Shell-Thick	INVSLE Combination	1.5852	-0.6822	-7.47	-
22.79	928	309 Shell-Thick	INVSLE Combination	2.3131	1.8755	-9.11	-
8.42	929	310 Shell-Thick	INVSLE Combination	2.2189	1.6630	-2.67	-
8.42	929	310 Shell-Thick	INVSLE Combination	1.2796	0.2147	-2.20	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 305 di 416
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8.83	929	310 Shell-Thick	INVSLE Combination	1.7196	0.2731	-2.20	-
8.83	929	310 Shell-Thick	INVSLE Combination	2.6454	1.7384	-2.67	-
13.12	929	310 Shell-Thick	INVSLE Combination	1.5258	1.3699	-4.04	-
13.12	929	310 Shell-Thick	INVSLE Combination	0.9153	-0.1391	-3.32	-
13.75	929	310 Shell-Thick	INVSLE Combination	1.2094	-0.0731	-3.32	-
13.75	929	310 Shell-Thick	INVSLE Combination	1.8057	1.4380	-4.04	-
11.37	929	310 Shell-Thick	INVSLE Combination	3.6376	2.2890	-3.60	-
11.37	929	310 Shell-Thick	INVSLE Combination	2.0253	0.2899	-2.98	-
11.92	929	310 Shell-Thick	INVSLE Combination	2.7642	0.3687	-2.98	-
11.92	929	310 Shell-Thick	INVSLE Combination	4.3641	2.3918	-3.60	-
22.73	929	310 Shell-Thick	INVSLE Combination	2.0599	1.8494	-6.85	-
22.73	929	310 Shell-Thick	INVSLE Combination	1.2357	-0.8633	-5.59	-
23.83	929	310 Shell-Thick	INVSLE Combination	1.6326	-0.7819	-5.59	-
23.83	929	310 Shell-Thick	INVSLE Combination	2.4377	1.9414	-6.85	-
8.82	930	311 Shell-Thick	INVSLE Combination	2.4424	1.7204	-1.82	-
8.82	930	311 Shell-Thick	INVSLE Combination	1.4411	0.2216	-1.50	-
9.10	930	311 Shell-Thick	INVSLE Combination	1.7426	0.2584	-1.50	-
9.10	930	311 Shell-Thick	INVSLE Combination	2.7327	1.7685	-1.82	-
13.73	930	311 Shell-Thick	INVSLE Combination	1.6636	1.4225	-2.76	-
13.73	930	311 Shell-Thick	INVSLE Combination	1.0161	-0.1515	-2.26	-
14.17	930	311 Shell-Thick	INVSLE Combination	1.2171	-0.1113	-2.26	-
14.17	930	311 Shell-Thick	INVSLE Combination	1.8537	1.4669	-2.76	-
11.90	930	311 Shell-Thick	INVSLE Combination	4.0364	2.3673	-2.46	-
11.90	930	311 Shell-Thick	INVSLE Combination	2.3109	0.2991	-2.02	-
12.28	930	311 Shell-Thick	INVSLE Combination	2.8183	0.3489	-2.02	-
12.28	930	311 Shell-Thick	INVSLE Combination	4.5319	2.4327	-2.46	-
23.79	930	311 Shell-Thick	INVSLE Combination	2.2459	1.9204	-4.69	-
23.79	930	311 Shell-Thick	INVSLE Combination	1.3718	-0.9153	-3.82	-
24.55	930	311 Shell-Thick	INVSLE Combination	1.6431	-0.8680	-3.82	-
24.55	930	311 Shell-Thick	INVSLE Combination	2.5024	1.9803	-4.69	-
9.09	931	312 Shell-Thick	INVSLE Combination	2.6011	1.7560	-1.01	-
9.09	931	312 Shell-Thick	INVSLE Combination	1.5613	0.2255	-0.83	-
9.09	931	312 Shell-Thick	INVSLE Combination	1.7294	0.2448	-0.83	-
9.25	931	312 Shell-Thick	INVSLE Combination	2.7614	1.7819	-1.01	-
9.25	931	312 Shell-Thick	INVSLE Combination	1.7614	1.4562	-1.53	-
14.16	931	312 Shell-Thick	INVSLE Combination	1.0916	-0.1613	-1.25	-
14.16	931	312 Shell-Thick	INVSLE Combination	1.2035	-0.1407	-1.25	-
14.40	931	312 Shell-Thick	INVSLE Combination	1.8662	1.4803	-1.53	-
14.40	931	312 Shell-Thick	INVSLE Combination	4.3200	2.4155	-1.36	-
12.27	931	312 Shell-Thick	INVSLE Combination				

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.diPag. 306 di 416
12.27	931	312 Shell-Thick	INVSLU Combination	2.5228	0.3044	-1.12	-	
12.49	931	312 Shell-Thick	INVSLU Combination	2.8060	0.3304	-1.12	-	
12.49	931	312 Shell-Thick	INVSLU Combination	4.5938	2.4509	-1.36	-	
24.52	931	312 Shell-Thick	INVSLU Combination	2.3779	1.9659	-2.61	-	
24.52	931	312 Shell-Thick	INVSLU Combination	1.4737	-0.9531	-2.12	-	
24.95	931	312 Shell-Thick	INVSLU Combination	1.6247	-0.9297	-2.12	-	
24.95	931	312 Shell-Thick	INVSLU Combination	2.5194	1.9984	-2.61	-	
9.25	932	313 Shell-Thick	INVSLE Combination	2.7029	1.7758	-0.22	-	
9.25	932	313 Shell-Thick	INVSLE Combination	1.6492	0.2305	-0.18	-	
9.25	932	313 Shell-Thick	INVSLE Combination	1.6865	0.2343	-0.18	-	
9.28	932	313 Shell-Thick	INVSLE Combination	2.7366	1.7822	-0.22	-	
9.28	932	313 Shell-Thick	INVSLE Combination	1.8253	1.4753	-0.33	-	
14.40	932	313 Shell-Thick	INVSLE Combination	1.1479	-0.1623	-0.27	-	
14.40	932	313 Shell-Thick	INVSLE Combination	1.1727	-0.1584	-0.27	-	
14.45	932	313 Shell-Thick	INVSLE Combination	1.8474	1.4808	-0.33	-	
14.45	932	313 Shell-Thick	INVSLE Combination	4.4993	2.4424	-0.30	-	
12.48	932	313 Shell-Thick	INVSLE Combination	2.6751	0.3112	-0.24	-	
12.48	932	313 Shell-Thick	INVSLE Combination	2.7381	0.3163	-0.24	-	
12.53	932	313 Shell-Thick	INVSLE Combination	4.5566	2.4511	-0.30	-	
12.53	932	313 Shell-Thick	INVSLE Combination	2.4641	1.9916	-0.56	-	
24.94	932	313 Shell-Thick	INVSLE Combination	1.5497	-0.9664	-0.46	-	
24.94	932	313 Shell-Thick	INVSLE Combination	1.5832	-0.9622	-0.46	-	
25.03	932	313 Shell-Thick	INVSLE Combination	2.4941	1.9991	-0.56	-	
25.03	932	313 Shell-Thick	INVSLE Combination	2.7539	1.7828	0.86	-	
9.28	933	314 Shell-Thick	INVSLE Combination	1.7068	0.2387	0.71	-	
9.28	933	314 Shell-Thick	INVSLE Combination	1.6139	0.2275	0.71	-	
9.19	933	314 Shell-Thick	INVSLE Combination	2.6617	1.7703	0.86	-	
9.19	933	314 Shell-Thick	INVSLE Combination	1.8593	1.4816	0.57	-	
14.45	933	314 Shell-Thick	INVSLE Combination	1.1871	-0.1515	0.47	-	
14.45	933	314 Shell-Thick	INVSLE Combination	1.1252	-0.1636	0.47	-	
14.32	933	314 Shell-Thick	INVSLE Combination	1.7994	1.4691	0.57	-	
14.32	933	314 Shell-Thick	INVSLE Combination	4.5849	2.4520	1.47	-	
12.53	933	314 Shell-Thick	INVSLE Combination	2.7706	0.3223	1.20	-	
12.53	933	314 Shell-Thick	INVSLE Combination	2.6142	0.3072	1.20	-	
12.41	933	314 Shell-Thick	INVSLE Combination	4.4266	2.4350	1.47	-	
12.41	933	314 Shell-Thick	INVSLE Combination	2.5101	2.0002	0.77	-	
25.04	933	314 Shell-Thick	INVSLE Combination	1.6025	-0.9504	0.63	-	
25.04	933	314 Shell-Thick	INVSLE Combination	1.5191	-0.9642	0.63	-	
24.80	933	314 Shell-Thick	INVSLE Combination	2.4292	1.9833	0.77	-	
24.80	933	314 Shell-Thick	INVSLE Combination					

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.diPag. 307 di 416
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9.20	934	315 Shell-Thick	INVSLE Combination	2.7527	1.7775	2.07	-	
9.20	934	315 Shell-Thick	INVSLE Combination	1.7357	0.2506	1.70	-	
8.99	934	315 Shell-Thick	INVSLE Combination	1.5113	0.2231	1.70	-	
8.99	934	315 Shell-Thick	INVSLE Combination	2.5328	1.7445	2.07	-	
14.33	934	315 Shell-Thick	INVSLE Combination	1.8631	1.4757	1.36	-	
14.33	934	315 Shell-Thick	INVSLE Combination	1.2098	-0.1283	1.12	-	
14.00	934	315 Shell-Thick	INVSLE Combination	1.0603	-0.1581	1.12	-	
14.00	934	315 Shell-Thick	INVSLE Combination	1.7197	1.4440	1.36	-	
12.42	934	315 Shell-Thick	INVSLE Combination	4.5737	2.4450	3.53	-	
12.42	934	315 Shell-Thick	INVSLE Combination	2.8122	0.3383	2.88	-	
12.14	934	315 Shell-Thick	INVSLE Combination	2.4344	0.3012	2.88	-	
12.14	934	315 Shell-Thick	INVSLE Combination	4.1970	2.4002	3.53	-	
24.82	934	315 Shell-Thick	INVSLE Combination	2.5152	1.9922	1.84	-	
24.82	934	315 Shell-Thick	INVSLE Combination	1.6333	-0.9039	1.52	-	
24.25	934	315 Shell-Thick	INVSLE Combination	1.4314	-0.9385	1.52	-	
24.25	934	315 Shell-Thick	INVSLE Combination	2.3216	1.9493	1.84	-	
9.00	935	316 Shell-Thick	INVSLE Combination	2.6968	1.7577	3.32	-	
9.00	935	316 Shell-Thick	INVSLE Combination	1.7315	0.2648	2.72	-	
8.66	935	316 Shell-Thick	INVSLE Combination	1.3718	0.2179	2.72	-	
8.66	935	316 Shell-Thick	INVSLE Combination	2.3445	1.7001	3.32	-	
14.02	935	316 Shell-Thick	INVSLE Combination	1.8343	1.4558	2.19	-	
14.02	935	316 Shell-Thick	INVSLE Combination	1.2133	-0.0945	1.81	-	
13.49	935	316 Shell-Thick	INVSLE Combination	0.9733	-0.1469	1.81	-	
13.49	935	316 Shell-Thick	INVSLE Combination	1.6039	1.4022	2.19	-	
12.15	935	316 Shell-Thick	INVSLE Combination	4.4624	2.4182	5.64	-	
12.15	935	316 Shell-Thick	INVSLE Combination	2.7921	0.3575	4.60	-	
11.70	935	316 Shell-Thick	INVSLE Combination	2.1876	0.2942	4.60	-	
11.70	935	316 Shell-Thick	INVSLE Combination	3.8604	2.3398	5.64	-	
24.29	935	316 Shell-Thick	INVSLE Combination	2.4763	1.9653	2.96	-	
24.29	935	316 Shell-Thick	INVSLE Combination	1.6380	-0.8299	2.44	-	
23.38	935	316 Shell-Thick	INVSLE Combination	1.3139	-0.8935	2.44	-	
23.38	935	316 Shell-Thick	INVSLE Combination	2.1653	1.8930	2.96	-	
8.68	936	317 Shell-Thick	INVSLE Combination	2.5759	1.7179	4.63	-	
8.68	936	317 Shell-Thick	INVSLE Combination	1.6883	0.2781	3.80	-	
8.22	936	317 Shell-Thick	INVSLE Combination	1.1874	0.2073	3.80	-	
8.22	936	317 Shell-Thick	INVSLE Combination	2.0837	1.6307	4.63	-	
13.52	936	317 Shell-Thick	INVSLE Combination	1.7657	1.4184	3.06	-	
13.52	936	317 Shell-Thick	INVSLE Combination	1.1931	-0.0550	2.53	-	
12.80	936	317 Shell-Thick	INVSLE Combination	0.8579	-0.1361	2.53	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 308 di 416
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12.80	936	317 Shell-Thick	INVSLE Combination	1.4427	1.3392	3.06	-	
11.72	936	317 Shell-Thick	INVSLE Combination	4.2344	2.3641	7.84	-	
11.72	936	317 Shell-Thick	INVSLE Combination	2.7018	0.3754	6.41	-	
11.09	936	317 Shell-Thick	INVSLE Combination	1.8618	0.2799	6.41	-	
11.09	936	317 Shell-Thick	INVSLE Combination	3.3958	2.2451	7.84	-	
23.43	936	317 Shell-Thick	INVSLE Combination	2.3837	1.9148	4.13	-	
23.43	936	317 Shell-Thick	INVSLE Combination	1.6107	-0.7369	3.42	-	
22.19	936	317 Shell-Thick	INVSLE Combination	1.1582	-0.8391	3.42	-	
22.19	936	317 Shell-Thick	INVSLE Combination	1.9476	1.8080	4.13	-	
8.24	937	318 Shell-Thick	INVSLE Combination	2.3774	1.6511	6.02	-	
8.24	937	318 Shell-Thick	INVSLE Combination	1.5938	0.2857	4.97	-	
7.65	937	318 Shell-Thick	INVSLE Combination	0.9431	0.1850	4.97	-	
7.65	937	318 Shell-Thick	INVSLE Combination	1.7345	1.5262	6.02	-	
12.84	937	318 Shell-Thick	INVSLE Combination	1.6477	1.3584	3.99	-	
12.84	937	318 Shell-Thick	INVSLE Combination	1.1404	-0.0165	3.32	-	
11.92	937	318 Shell-Thick	INVSLE Combination	0.7034	-0.1356	3.32	-	
11.92	937	318 Shell-Thick	INVSLE Combination	1.2240	1.2485	3.99	-	
11.12	937	318 Shell-Thick	INVSLE Combination	3.8709	2.2729	10.16	-	
11.12	937	318 Shell-Thick	INVSLE Combination	2.5218	0.3857	8.34	-	
10.32	937	318 Shell-Thick	INVSLE Combination	1.4336	0.2498	8.34	-	
10.32	937	318 Shell-Thick	INVSLE Combination	2.7796	2.1020	10.16	-	
22.26	937	318 Shell-Thick	INVSLE Combination	2.2245	1.8338	5.39	-	
22.26	937	318 Shell-Thick	INVSLE Combination	1.5396	-0.6352	4.48	-	
20.67	937	318 Shell-Thick	INVSLE Combination	0.9496	-0.7919	4.48	-	
20.67	937	318 Shell-Thick	INVSLE Combination	1.6523	1.6854	5.39	-	
7.67	938	319 Shell-Thick	INVSLE Combination	2.0800	1.5465	7.52	-	
7.67	938	319 Shell-Thick	INVSLE Combination	1.4326	0.2811	6.24	-	
6.95	938	319 Shell-Thick	INVSLE Combination	0.6203	0.1440	6.24	-	
6.95	938	319 Shell-Thick	INVSLE Combination	1.2720	1.3771	7.52	-	
11.97	938	319 Shell-Thick	INVSLE Combination	1.4647	1.2686	5.01	-	
11.97	938	319 Shell-Thick	INVSLE Combination	1.0438	0.0110	4.18	-	
10.84	938	319 Shell-Thick	INVSLE Combination	0.4959	-0.1549	4.18	-	
10.84	938	319 Shell-Thick	INVSLE Combination	0.9292	1.1228	5.01	-	
10.36	938	319 Shell-Thick	INVSLE Combination	3.3394	2.1295	12.66	-	
10.36	938	319 Shell-Thick	INVSLE Combination	2.2285	0.3795	10.43	-	
9.38	938	319 Shell-Thick	INVSLE Combination	0.8750	0.1944	10.43	-	
9.38	938	319 Shell-Thick	INVSLE Combination	1.9737	1.8977	12.66	-	
20.76	938	319 Shell-Thick	INVSLE Combination	1.9774	1.7126	6.77	-	
20.76	938	319 Shell-Thick	INVSLE Combination	1.4091	-0.5418	5.65	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 309 di 416
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18.82	938	319 Shell-Thick	INVSLE Combination	0.6694	-0.7667	5.65	-	
18.82	938	319 Shell-Thick	INVSLE Combination	1.2545	1.5158	6.77	-	
6.98	939	320 Shell-Thick	INVSLE Combination	1.6581	1.3941	9.17	-	
6.98	939	320 Shell-Thick	INVSLE Combination	1.1816	0.2569	7.65	-	
6.12	939	320 Shell-Thick	INVSLE Combination	0.2149	0.0763	7.65	-	
6.12	939	320 Shell-Thick	INVSLE Combination	0.6664	1.1706	9.17	-	
10.91	939	320 Shell-Thick	INVSLE Combination	1.1971	1.1415	6.15	-	
10.91	939	320 Shell-Thick	INVSLE Combination	0.8858	0.0177	5.16	-	
9.57	939	320 Shell-Thick	INVSLE Combination	0.1921	-0.2065	5.16	-	
9.57	939	320 Shell-Thick	INVSLE Combination	0.5357	0.9541	6.15	-	
9.43	939	320 Shell-Thick	INVSLE Combination	2.6018	1.9199	15.36	-	
9.43	939	320 Shell-Thick	INVSLE Combination	1.7872	0.3468	12.74	-	
8.27	939	320 Shell-Thick	INVSLE Combination	0.2901	0.1030	12.74	-	
8.27	939	320 Shell-Thick	INVSLE Combination	0.9340	1.6139	15.36	-	
18.93	939	320 Shell-Thick	INVSLE Combination	1.6161	1.5411	8.30	-	
18.93	939	320 Shell-Thick	INVSLE Combination	1.1958	-0.4720	6.97	-	
16.63	939	320 Shell-Thick	INVSLE Combination	0.1454	-0.7853	6.97	-	
16.63	939	320 Shell-Thick	INVSLE Combination	0.7232	1.2880	8.30	-	
6.17	940	321 Shell-Thick	INVSLE Combination	1.0763	1.1802	11.01	-	
6.17	940	321 Shell-Thick	INVSLE Combination	0.8119	0.2043	9.25	-	
5.17	940	321 Shell-Thick	INVSLE Combination	-0.1652	-0.0252	9.25	-	
5.17	940	321 Shell-Thick	INVSLE Combination	0.0119	0.8977	11.01	-	
9.65	940	321 Shell-Thick	INVSLE Combination	0.8174	0.9684	7.42	-	
9.65	940	321 Shell-Thick	INVSLE Combination	0.6444	-0.0100	6.29	-	
8.11	940	321 Shell-Thick	INVSLE Combination	-0.3751	-0.2999	6.29	-	
8.11	940	321 Shell-Thick	INVSLE Combination	-0.1231	0.7356	7.42	-	
8.33	940	321 Shell-Thick	INVSLE Combination	1.6061	1.6250	18.35	-	
8.33	940	321 Shell-Thick	INVSLE Combination	1.1549	0.2758	15.32	-	
6.98	940	321 Shell-Thick	INVSLE Combination	-0.2230	-0.0340	15.32	-	
6.98	940	321 Shell-Thick	INVSLE Combination	0.0161	1.2363	18.35	-	
16.77	940	321 Shell-Thick	INVSLE Combination	1.1035	1.3073	10.02	-	
16.77	940	321 Shell-Thick	INVSLE Combination	0.8699	-0.4488	8.49	-	
14.12	940	321 Shell-Thick	INVSLE Combination	-0.8049	-0.8622	8.49	-	
14.12	940	321 Shell-Thick	INVSLE Combination	-0.3995	0.9931	10.02	-	
5.23	941	322 Shell-Thick	INVSLE Combination	0.2933	0.8956	13.08	-	
5.23	941	322 Shell-Thick	INVSLE Combination	0.2891	0.1155	11.10	-	
4.11	941	322 Shell-Thick	INVSLE Combination	-0.6793	-0.1680	11.10	-	
4.11	941	322 Shell-Thick	INVSLE Combination	-0.6794	0.5466	13.08	-	
8.20	941	322 Shell-Thick	INVSLE Combination	0.2932	0.7420	8.88	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 310 di 416
8.20	941	322 Shell-Thick	INVSLE Combination	0.2853	-0.0824	7.60	-	
6.47	941	322 Shell-Thick	INVSLE Combination	-1.1254	-0.4481	7.60	-	
6.47	941	322 Shell-Thick	INVSLE Combination	-1.1439	0.4608	8.88	-	
7.05	941	322 Shell-Thick	INVSLE Combination	0.3959	1.2321	21.68	-	
7.05	941	322 Shell-Thick	INVSLE Combination	0.3903	0.1559	18.27	-	
5.55	941	322 Shell-Thick	INVSLE Combination	-0.9170	-0.2267	18.27	-	
5.55	941	322 Shell-Thick	INVSLE Combination	-0.9171	0.7508	21.68	-	
14.29	941	322 Shell-Thick	INVSLE Combination	0.2932	1.0018	11.98	-	
14.29	941	322 Shell-Thick	INVSLE Combination	0.2774	-0.4874	10.26	-	
11.30	941	322 Shell-Thick	INVSLE Combination	-2.0387	-1.0217	10.26	-	
11.30	941	322 Shell-Thick	INVSLE Combination	-2.0949	0.6220	11.98	-	
4.17	942	323 Shell-Thick	INVSLE Combination	-0.4197	0.5287	15.43	-	
4.17	942	323 Shell-Thick	INVSLE Combination	-0.2136	-0.0180	13.27	-	
2.95	942	323 Shell-Thick	INVSLE Combination	-1.3663	-0.3579	13.27	-	
2.95	942	323 Shell-Thick	INVSLE Combination	-1.5882	0.1259	15.43	-	
6.57	942	323 Shell-Thick	INVSLE Combination	-0.7459	0.4559	10.55	-	
6.57	942	323 Shell-Thick	INVSLE Combination	-0.4392	-0.2134	9.16	-	
4.68	942	323 Shell-Thick	INVSLE Combination	-2.1065	-0.6599	9.16	-	
4.68	942	323 Shell-Thick	INVSLE Combination	-2.4583	0.1114	10.55	-	
5.63	942	323 Shell-Thick	INVSLE Combination	-0.5667	0.7246	25.42	-	
5.63	942	323 Shell-Thick	INVSLE Combination	-0.2884	-0.0243	21.68	-	
3.99	942	323 Shell-Thick	INVSLE Combination	-1.8445	-0.4831	21.68	-	
3.99	942	323 Shell-Thick	INVSLE Combination	-2.1440	0.1700	25.42	-	
11.50	942	323 Shell-Thick	INVSLE Combination	-1.4134	0.6154	14.24	-	
11.50	942	323 Shell-Thick	INVSLE Combination	-0.9010	-0.6132	12.36	-	
8.22	942	323 Shell-Thick	INVSLE Combination	-3.6216	-1.2780	12.36	-	
8.22	942	323 Shell-Thick	INVSLE Combination	-4.2396	0.0818	14.24	-	
3.02	943	324 Shell-Thick	INVSLE Combination	-1.3762	0.1057	18.12	-	
3.02	943	324 Shell-Thick	INVSLE Combination	-0.9113	-0.2043	15.82	-	
1.74	943	324 Shell-Thick	INVSLE Combination	-2.2795	-0.5948	15.82	-	
1.74	943	324 Shell-Thick	INVSLE Combination	-2.7751	-0.2649	18.12	-	
4.80	943	324 Shell-Thick	INVSLE Combination	-2.1081	0.0735	12.48	-	
4.80	943	324 Shell-Thick	INVSLE Combination	-1.4164	-0.4139	11.02	-	
2.79	943	324 Shell-Thick	INVSLE Combination	-3.3806	-0.9402	11.02	-	
2.79	943	324 Shell-Thick	INVSLE Combination	-4.1412	-0.4079	12.48	-	
4.08	943	324 Shell-Thick	INVSLE Combination	-1.8578	0.1427	29.66	-	
4.08	943	324 Shell-Thick	INVSLE Combination	-1.2302	-0.2758	25.66	-	
2.35	943	324 Shell-Thick	INVSLE Combination	-3.0773	-0.8029	25.66	-	
2.35	943	324 Shell-Thick	INVSLE Combination	-3.7464	-0.3576	29.66	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 311 di 416
8.43	943	324 Shell-Thick	INVSLU Combination	-3.6065	0.0075	16.84	-	
8.43	943	324 Shell-Thick	INVSLU Combination	-2.4503	-0.8429	14.87	-	
4.93	943	324 Shell-Thick	INVSLU Combination	-5.6347	-1.6474	14.87	-	
4.93	943	324 Shell-Thick	INVSLU Combination	-6.9376	-0.7006	16.84	-	
1.83	944	325 Shell-Thick	INVSLE Combination	-2.6803	-0.3315	22.12	-	
1.83	944	325 Shell-Thick	INVSLE Combination	-1.7841	-0.4101	19.66	-	
0.27	944	325 Shell-Thick	INVSLE Combination	-4.3483	-1.0345	19.66	-	
0.27	944	325 Shell-Thick	INVSLE Combination	-5.2739	-0.8899	22.12	-	
2.95	944	325 Shell-Thick	INVSLE Combination	-3.9041	-0.5103	15.37	-	
2.95	944	325 Shell-Thick	INVSLE Combination	-2.5622	-0.6267	13.85	-	
0.17	944	325 Shell-Thick	INVSLE Combination	-6.2215	-1.5059	13.85	-	
0.17	944	325 Shell-Thick	INVSLE Combination	-7.6199	-1.2624	15.37	-	
2.47	944	325 Shell-Thick	INVSLU Combination	-3.6184	-0.4476	35.92	-	
2.47	944	325 Shell-Thick	INVSLU Combination	-2.4086	-0.5536	31.57	-	
0.48	944	325 Shell-Thick	INVSLU Combination	-5.8701	-1.3966	31.57	-	
0.48	944	325 Shell-Thick	INVSLU Combination	-7.1198	-1.2014	35.92	-	
5.24	944	325 Shell-Thick	INVSLU Combination	-6.4092	-0.8763	20.75	-	
5.24	944	325 Shell-Thick	INVSLU Combination	-4.1547	-1.0700	18.69	-	
0.23	944	325 Shell-Thick	INVSLU Combination	-10.0560	-2.4708	18.69	-	
0.23	944	325 Shell-Thick	INVSLU Combination	-12.4221	-2.0249	20.75	-	
0.26	954	326 Shell-Thick	INVSLE Combination	-4.1303	-0.6613	-14.74	-	
0.26	954	326 Shell-Thick	INVSLE Combination	-3.0442	-0.7736	-12.71	-	
1.61	954	326 Shell-Thick	INVSLE Combination	-1.4523	-0.4268	-12.71	-	
1.61	954	326 Shell-Thick	INVSLE Combination	-2.4891	-0.3465	-14.74	-	
0.17	954	326 Shell-Thick	INVSLE Combination	-5.8731	-0.9258	-20.88	-	
0.17	954	326 Shell-Thick	INVSLE Combination	-4.2730	-1.1035	-17.79	-	
2.45	954	326 Shell-Thick	INVSLE Combination	-2.0424	-0.6221	-17.79	-	
2.45	954	326 Shell-Thick	INVSLE Combination	-3.5488	-0.5058	-20.88	-	
0.44	954	326 Shell-Thick	INVSLU Combination	-5.5759	-0.8927	-19.90	-	
0.44	954	326 Shell-Thick	INVSLU Combination	-4.1096	-1.0444	-17.16	-	
2.17	954	326 Shell-Thick	INVSLU Combination	-1.9606	-0.5762	-17.16	-	
2.17	954	326 Shell-Thick	INVSLU Combination	-3.3603	-0.4677	-19.90	-	
0.23	954	326 Shell-Thick	INVSLU Combination	-9.4406	-1.4672	-33.46	-	
0.23	954	326 Shell-Thick	INVSLU Combination	-6.7883	-1.7786	-28.19	-	
4.17	954	326 Shell-Thick	INVSLU Combination	-3.2504	-1.0219	-28.19	-	
4.17	954	326 Shell-Thick	INVSLU Combination	-5.7179	-0.8319	-33.46	-	
1.52	955	327 Shell-Thick	INVSLE Combination	-2.7112	-0.3057	-12.29	-	
1.52	955	327 Shell-Thick	INVSLE Combination	-2.0762	-0.6368	-10.27	-	
3.29	955	327 Shell-Thick	INVSLE Combination	-0.7607	-0.3539	-10.27	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 312 di 416
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3.29	955	327 Shell-Thick	INVSLE Combination	-1.3692	-0.0396	-12.29	-
2.30	955	327 Shell-Thick	INVSLE Combination	-3.9556	-0.4472	-17.56	-
2.30	955	327 Shell-Thick	INVSLE Combination	-3.0053	-0.9546	-14.52	-
4.96	955	327 Shell-Thick	INVSLE Combination	-1.1461	-0.5844	-14.52	-
4.96	955	327 Shell-Thick	INVSLE Combination	-2.0362	-0.1158	-17.56	-
2.05	955	327 Shell-Thick	INVSLE Combination	-3.6601	-0.4126	-16.60	-
2.05	955	327 Shell-Thick	INVSLE Combination	-2.8028	-0.8597	-13.87	-
4.44	955	327 Shell-Thick	INVSLE Combination	-1.0270	-0.4778	-13.87	-
4.44	955	327 Shell-Thick	INVSLE Combination	-1.8484	-0.0535	-16.60	-
3.90	955	327 Shell-Thick	INVSLE Combination	-6.5027	-0.7369	-28.35	-
3.90	955	327 Shell-Thick	INVSLE Combination	-4.9071	-1.6052	-23.22	-
8.39	955	327 Shell-Thick	INVSLE Combination	-1.9348	-1.0562	-23.22	-
8.39	955	327 Shell-Thick	INVSLE Combination	-3.4017	-0.2716	-28.35	-
3.20	956	328 Shell-Thick	INVSLE Combination	-1.6464	-0.0115	-10.24	-
3.20	956	328 Shell-Thick	INVSLE Combination	-1.3522	-0.5558	-8.33	-
4.86	956	328 Shell-Thick	INVSLE Combination	-0.2630	-0.3524	-8.33	-
4.86	956	328 Shell-Thick	INVSLE Combination	-0.5486	0.1871	-10.24	-
4.82	956	328 Shell-Thick	INVSLE Combination	-2.4842	-0.0698	-14.75	-
4.82	956	328 Shell-Thick	INVSLE Combination	-2.0250	-0.8957	-11.90	-
7.31	956	328 Shell-Thick	INVSLE Combination	-0.4723	-0.6452	-11.90	-
7.31	956	328 Shell-Thick	INVSLE Combination	-0.8986	0.1600	-14.75	-
4.32	956	328 Shell-Thick	INVSLE Combination	-2.2227	-0.0155	-13.82	-
4.32	956	328 Shell-Thick	INVSLE Combination	-1.8255	-0.7504	-11.25	-
6.57	956	328 Shell-Thick	INVSLE Combination	-0.3551	-0.4758	-11.25	-
6.57	956	328 Shell-Thick	INVSLE Combination	-0.7406	0.2526	-13.82	-
8.14	956	328 Shell-Thick	INVSLE Combination	-4.1990	-0.1894	-23.98	-
8.14	956	328 Shell-Thick	INVSLE Combination	-3.4023	-1.5914	-19.20	-
12.32	956	328 Shell-Thick	INVSLE Combination	-0.9008	-1.2445	-19.20	-
12.32	956	328 Shell-Thick	INVSLE Combination	-1.6150	0.1045	-23.98	-
4.78	957	329 Shell-Thick	INVSLE Combination	-0.8518	0.2030	-8.51	-
4.78	957	329 Shell-Thick	INVSLE Combination	-0.8147	-0.5393	-6.80	-
6.29	957	329 Shell-Thick	INVSLE Combination	0.0893	-0.4048	-6.80	-
6.29	957	329 Shell-Thick	INVSLE Combination	0.0472	0.3416	-8.51	-
7.18	957	329 Shell-Thick	INVSLE Combination	-1.3599	0.1911	-12.37	-
7.18	957	329 Shell-Thick	INVSLE Combination	-1.2768	-0.9294	-9.80	-
9.43	957	329 Shell-Thick	INVSLE Combination	0.0224	-0.7793	-9.80	-
9.43	957	329 Shell-Thick	INVSLE Combination	-0.0489	0.3345	-12.37	-
6.46	957	329 Shell-Thick	INVSLE Combination	-1.1500	0.2740	-11.49	-
6.46	957	329 Shell-Thick	INVSLE Combination	-1.0998	-0.7281	-9.17	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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8.49	957	329 Shell-Thick	INVS LU Combination	0.1205	-0.5465	-9.17	-
8.49	957	329 Shell-Thick	INVS LU Combination	0.0638	0.4612	-11.49	-
12.09	957	329 Shell-Thick	INVS LU Combination	-2.3998	0.1667	-20.25	-
12.09	957	329 Shell-Thick	INVS LU Combination	-2.2228	-1.7280	-15.94	-
15.87	957	329 Shell-Thick	INVS LU Combination	-0.1146	-1.5459	-15.94	-
15.87	957	329 Shell-Thick	INVS LU Combination	-0.2456	0.3201	-20.25	-
6.22	958	330 Shell-Thick	INVS LE Combination	-0.2621	0.3489	-7.06	-
6.22	958	330 Shell-Thick	INVS LE Combination	-0.4326	-0.5746	-5.56	-
7.54	958	330 Shell-Thick	INVS LE Combination	0.3562	-0.4960	-5.56	-
7.54	958	330 Shell-Thick	INVS LE Combination	0.5768	0.4344	-7.06	-
9.32	958	330 Shell-Thick	INVS LE Combination	-0.5060	0.3452	-10.34	-
9.32	958	330 Shell-Thick	INVS LE Combination	-0.7310	-1.0358	-8.08	-
11.30	958	330 Shell-Thick	INVS LE Combination	0.3182	-0.9631	-8.08	-
11.30	958	330 Shell-Thick	INVS LE Combination	0.4738	0.4257	-10.34	-
8.40	958	330 Shell-Thick	INVS LU Combination	-0.3539	0.4716	-9.54	-
8.40	958	330 Shell-Thick	INVS LU Combination	-0.5840	-0.7757	-7.50	-
10.18	958	330 Shell-Thick	INVS LU Combination	0.4865	-0.6696	-7.50	-
10.18	958	330 Shell-Thick	INVS LU Combination	0.7941	0.5864	-9.54	-
15.68	958	330 Shell-Thick	INVS LU Combination	-1.0052	0.3567	-17.05	-
15.68	958	330 Shell-Thick	INVS LU Combination	-1.3418	-1.9799	-13.25	-
19.01	958	330 Shell-Thick	INVS LU Combination	0.4295	-1.9191	-13.25	-
19.01	958	330 Shell-Thick	INVS LU Combination	0.6397	0.4079	-17.05	-
7.48	959	331 Shell-Thick	INVS LE Combination	0.1681	0.4278	-5.83	-
7.48	959	331 Shell-Thick	INVS LE Combination	-0.1649	-0.6471	-4.54	-
8.62	959	331 Shell-Thick	INVS LE Combination	0.5664	-0.6152	-4.54	-
8.62	959	331 Shell-Thick	INVS LE Combination	1.0224	0.4745	-5.83	-
11.21	959	331 Shell-Thick	INVS LE Combination	0.1321	0.4254	-8.60	-
11.21	959	331 Shell-Thick	INVS LE Combination	-0.3395	-1.1908	-6.65	-
12.91	959	331 Shell-Thick	INVS LE Combination	0.4565	-1.1820	-6.65	-
12.91	959	331 Shell-Thick	INVS LE Combination	0.7683	0.4456	-8.60	-
10.10	959	331 Shell-Thick	INVS LU Combination	0.2269	0.5775	-7.87	-
10.10	959	331 Shell-Thick	INVS LU Combination	-0.2226	-0.8736	-6.13	-
11.63	959	331 Shell-Thick	INVS LU Combination	0.7913	-0.8305	-6.13	-
11.63	959	331 Shell-Thick	INVS LU Combination	1.5426	0.6406	-7.87	-
18.84	959	331 Shell-Thick	INVS LU Combination	0.0585	0.4205	-14.26	-
18.84	959	331 Shell-Thick	INVS LU Combination	-0.6970	-2.3038	-10.98	-
21.71	959	331 Shell-Thick	INVS LU Combination	0.6163	-2.3423	-10.98	-
21.71	959	331 Shell-Thick	INVS LU Combination	1.0372	0.3865	-14.26	-
8.57	960	332 Shell-Thick	INVS LE Combination	0.6056	0.4612	-4.77	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 314 di 416
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8.57	960	332 Shell-Thick	INVSLE Combination	0.0209	-0.7467	-3.68	-
9.52	960	332 Shell-Thick	INVSLE Combination	0.6870	-0.7486	-3.68	-
9.52	960	332 Shell-Thick	INVSLE Combination	1.3306	0.4763	-4.77	-
12.84	960	332 Shell-Thick	INVSLE Combination	0.4797	0.4350	-7.07	-
12.84	960	332 Shell-Thick	INVSLE Combination	-0.0608	-1.3801	-5.43	-
14.28	960	332 Shell-Thick	INVSLE Combination	0.5308	-1.4155	-5.43	-
14.28	960	332 Shell-Thick	INVSLE Combination	0.9649	0.4157	-7.07	-
11.57	960	332 Shell-Thick	INVSLE Combination	0.8632	0.6226	-6.44	-
11.57	960	332 Shell-Thick	INVSLE Combination	0.0282	-1.0080	-4.97	-
12.85	960	332 Shell-Thick	INVSLE Combination	1.0067	-1.0106	-4.97	-
12.85	960	332 Shell-Thick	INVSLE Combination	2.0790	0.6430	-6.44	-
21.58	960	332 Shell-Thick	INVSLE Combination	0.6476	0.3813	-11.79	-
21.58	960	332 Shell-Thick	INVSLE Combination	-0.2281	-2.6768	-9.01	-
24.01	960	332 Shell-Thick	INVSLE Combination	0.7165	-2.7805	-9.01	-
24.01	960	332 Shell-Thick	INVSLE Combination	1.3027	0.2916	-11.79	-
9.49	961	333 Shell-Thick	INVSLE Combination	0.9544	0.4594	-3.83	-
9.49	961	333 Shell-Thick	INVSLE Combination	0.1505	-0.8600	-2.94	-
10.27	961	333 Shell-Thick	INVSLE Combination	0.7450	-0.8840	-2.94	-
10.27	961	333 Shell-Thick	INVSLE Combination	1.5351	0.4528	-3.83	-
14.22	961	333 Shell-Thick	INVSLE Combination	0.7038	0.3989	-5.72	-
14.22	961	333 Shell-Thick	INVSLE Combination	0.1385	-1.5836	-4.36	-
15.40	961	333 Shell-Thick	INVSLE Combination	0.5620	-1.6465	-4.36	-
15.40	961	333 Shell-Thick	INVSLE Combination	1.0899	0.3540	-5.72	-
12.81	961	333 Shell-Thick	INVSLE Combination	1.4675	0.6202	-5.17	-
12.81	961	333 Shell-Thick	INVSLE Combination	0.2032	-1.1610	-3.97	-
13.86	961	333 Shell-Thick	INVSLE Combination	1.1198	-1.1934	-3.97	-
13.86	961	333 Shell-Thick	INVSLE Combination	2.4462	0.6113	-5.17	-
23.90	961	333 Shell-Thick	INVSLE Combination	0.9501	0.2748	-9.57	-
23.90	961	333 Shell-Thick	INVSLE Combination	0.1140	-3.0646	-7.28	-
25.91	961	333 Shell-Thick	INVSLE Combination	0.7586	-3.2072	-7.28	-
25.91	961	333 Shell-Thick	INVSLE Combination	1.4714	0.1515	-9.57	-
10.24	962	334 Shell-Thick	INVSLE Combination	1.2115	0.4353	-2.99	-
10.24	962	334 Shell-Thick	INVSLE Combination	0.2824	-0.9754	-2.29	-
10.86	962	334 Shell-Thick	INVSLE Combination	0.7604	-1.0099	-2.29	-
10.86	962	334 Shell-Thick	INVSLE Combination	1.6637	0.4170	-2.99	-
15.36	962	334 Shell-Thick	INVSLE Combination	0.8651	0.3348	-4.49	-
15.36	962	334 Shell-Thick	INVSLE Combination	0.2418	-1.7846	-3.41	-
16.30	962	334 Shell-Thick	INVSLE Combination	0.5647	-1.8576	-3.41	-
16.30	962	334 Shell-Thick	INVSLE Combination	1.1642	0.2796	-4.49	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 315 di 416
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13.83	962	334 Shell-Thick	INVSLU Combination	1.9207	0.5876	-4.04	-	
13.83	962	334 Shell-Thick	INVSLU Combination	0.3874	-1.3168	-3.09	-	
14.66	962	334 Shell-Thick	INVSLU Combination	1.1609	-1.3633	-3.09	-	
14.66	962	334 Shell-Thick	INVSLU Combination	2.6860	0.5630	-4.04	-	
25.83	962	334 Shell-Thick	INVSLU Combination	1.1679	0.1293	-7.54	-	
25.83	962	334 Shell-Thick	INVSLU Combination	0.3265	-3.4409	-5.71	-	
27.43	962	334 Shell-Thick	INVSLU Combination	0.7623	-3.5928	-5.71	-	
27.43	962	334 Shell-Thick	INVSLU Combination	1.5717	-0.0016	-7.54	-	
10.84	963	335 Shell-Thick	INVSLE Combination	1.3999	0.4008	-2.23	-	
10.84	963	335 Shell-Thick	INVSLE Combination	0.3898	-1.0815	-1.70	-	
11.31	963	335 Shell-Thick	INVSLE Combination	0.7483	-1.1172	-1.70	-	
11.31	963	335 Shell-Thick	INVSLE Combination	1.7355	0.3790	-2.23	-	
16.27	963	335 Shell-Thick	INVSLE Combination	0.9810	0.2612	-3.35	-	
16.27	963	335 Shell-Thick	INVSLE Combination	0.3088	-1.9660	-2.54	-	
16.98	963	335 Shell-Thick	INVSLE Combination	0.5501	-2.0359	-2.54	-	
16.98	963	335 Shell-Thick	INVSLE Combination	1.2021	0.2071	-3.35	-	
14.64	963	335 Shell-Thick	INVSLU Combination	2.2573	0.5411	-3.01	-	
14.64	963	335 Shell-Thick	INVSLU Combination	0.5558	-1.4600	-2.29	-	
15.27	963	335 Shell-Thick	INVSLU Combination	1.1541	-1.5082	-2.29	-	
15.27	963	335 Shell-Thick	INVSLU Combination	2.8273	0.5116	-3.01	-	
27.37	963	335 Shell-Thick	INVSLU Combination	1.3243	-0.0247	-5.65	-	
27.37	963	335 Shell-Thick	INVSLU Combination	0.4168	-3.7765	-4.27	-	
28.58	963	335 Shell-Thick	INVSLU Combination	0.7426	-3.9163	-4.27	-	
28.58	963	335 Shell-Thick	INVSLU Combination	1.6228	-0.1448	-5.65	-	
11.30	964	336 Shell-Thick	INVSLE Combination	1.5384	0.3658	-1.52	-	
11.30	964	336 Shell-Thick	INVSLE Combination	0.4726	-1.1694	-1.15	-	
11.62	964	336 Shell-Thick	INVSLE Combination	0.7182	-1.1988	-1.15	-	
11.62	964	336 Shell-Thick	INVSLE Combination	1.7659	0.3469	-1.52	-	
16.95	964	336 Shell-Thick	INVSLE Combination	1.0651	0.1916	-2.29	-	
16.95	964	336 Shell-Thick	INVSLE Combination	0.3601	-2.1150	-1.73	-	
17.45	964	336 Shell-Thick	INVSLE Combination	0.5250	-2.1702	-1.73	-	
17.45	964	336 Shell-Thick	INVSLE Combination	1.2146	0.1487	-2.29	-	
15.25	964	336 Shell-Thick	INVSLU Combination	2.5071	0.4938	-2.05	-	
15.25	964	336 Shell-Thick	INVSLU Combination	0.7029	-1.5787	-1.55	-	
15.68	964	336 Shell-Thick	INVSLU Combination	1.1136	-1.6184	-1.55	-	
15.68	964	336 Shell-Thick	INVSLU Combination	2.8944	0.4683	-2.05	-	
28.54	964	336 Shell-Thick	INVSLU Combination	1.4379	-0.1649	-3.87	-	
28.54	964	336 Shell-Thick	INVSLU Combination	0.4861	-4.0504	-2.91	-	
29.38	964	336 Shell-Thick	INVSLU Combination	0.7087	-4.1587	-2.91	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 316 di 416
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29.38	964	336 Shell-Thick	INVS LU Combination	1.6398	-0.2570	-3.87	-	
11.61	965	337 Shell-Thick	INVS LE Combination	1.6379	0.3378	-0.84	-	
11.61	965	337 Shell-Thick	INVS LE Combination	0.5407	-1.2319	-0.64	-	
11.79	965	337 Shell-Thick	INVS LE Combination	0.6776	-1.2499	-0.64	-	
11.79	965	337 Shell-Thick	INVS LE Combination	1.7633	0.3263	-0.84	-	
17.43	965	337 Shell-Thick	INVS LE Combination	1.1258	0.1378	-1.27	-	
17.43	965	337 Shell-Thick	INVS LE Combination	0.4028	-2.2204	-0.96	-	
17.70	965	337 Shell-Thick	INVS LE Combination	0.4946	-2.2537	-0.96	-	
17.70	965	337 Shell-Thick	INVS LE Combination	1.2081	0.1124	-1.27	-	
15.67	965	337 Shell-Thick	INVS LU Combination	2.6862	0.4561	-1.14	-	
15.67	965	337 Shell-Thick	INVS LU Combination	0.8230	-1.6631	-0.86	-	
15.91	965	337 Shell-Thick	INVS LU Combination	1.0524	-1.6873	-0.86	-	
15.91	965	337 Shell-Thick	INVS LU Combination	2.8997	0.4405	-1.14	-	
29.35	965	337 Shell-Thick	INVS LU Combination	1.5199	-0.2716	-2.15	-	
29.35	965	337 Shell-Thick	INVS LU Combination	0.5438	-4.2438	-1.61	-	
29.82	965	337 Shell-Thick	INVS LU Combination	0.6677	-4.3084	-1.61	-	
29.82	965	337 Shell-Thick	INVS LU Combination	1.6309	-0.3254	-2.15	-	
11.78	966	338 Shell-Thick	INVS LE Combination	1.7078	0.3220	-0.18	-	
11.78	966	338 Shell-Thick	INVS LE Combination	0.5986	-1.2641	-0.14	-	
11.82	966	338 Shell-Thick	INVS LE Combination	0.6292	-1.2678	-0.14	-	
11.82	966	338 Shell-Thick	INVS LE Combination	1.7340	0.3204	-0.18	-	
17.70	966	338 Shell-Thick	INVS LE Combination	1.1694	0.1071	-0.28	-	
17.70	966	338 Shell-Thick	INVS LE Combination	0.4403	-2.2752	-0.21	-	
17.76	966	338 Shell-Thick	INVS LE Combination	0.4608	-2.2822	-0.21	-	
17.76	966	338 Shell-Thick	INVS LE Combination	1.1867	0.1032	-0.28	-	
15.91	966	338 Shell-Thick	INVS LU Combination	2.8099	0.4347	-0.25	-	
15.91	966	338 Shell-Thick	INVS LU Combination	0.9225	-1.7066	-0.19	-	
15.96	966	338 Shell-Thick	INVS LU Combination	0.9739	-1.7116	-0.19	-	
15.96	966	338 Shell-Thick	INVS LU Combination	2.8541	0.4326	-0.25	-	
29.80	966	338 Shell-Thick	INVS LU Combination	1.5787	-0.3328	-0.46	-	
29.80	966	338 Shell-Thick	INVS LU Combination	0.5945	-4.3449	-0.35	-	
29.91	966	338 Shell-Thick	INVS LU Combination	0.6221	-4.3584	-0.35	-	
29.91	966	338 Shell-Thick	INVS LU Combination	1.6021	-0.3415	-0.46	-	
11.83	967	339 Shell-Thick	INVS LE Combination	1.7506	0.3211	0.71	-	
11.83	967	339 Shell-Thick	INVS LE Combination	0.6502	-1.2634	0.54	-	
11.73	967	339 Shell-Thick	INVS LE Combination	0.5751	-1.2522	0.54	-	
11.73	967	339 Shell-Thick	INVS LE Combination	1.6783	0.3300	0.71	-	
17.76	967	339 Shell-Thick	INVS LE Combination	1.1982	0.1038	0.47	-	
17.76	967	339 Shell-Thick	INVS LE Combination	0.4754	-2.2752	0.36	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 317 di 416
17.61	967	339 Shell-Thick	INVSLE Combination	0.4249	-2.2549	0.36	-	
17.61	967	339 Shell-Thick	INVSLE Combination	1.1511	0.1221	0.47	-	
15.96	967	339 Shell-Thick	INVSLU Combination	2.8813	0.4335	1.21	-	
15.96	967	339 Shell-Thick	INVSLU Combination	1.0082	-1.7055	0.91	-	
15.83	967	339 Shell-Thick	INVSLU Combination	0.8824	-1.6905	0.91	-	
15.83	967	339 Shell-Thick	INVSLU Combination	2.7574	0.4455	1.21	-	
29.91	967	339 Shell-Thick	INVSLU Combination	1.6176	-0.3412	0.64	-	
29.91	967	339 Shell-Thick	INVSLU Combination	0.6418	-4.3464	0.48	-	
29.65	967	339 Shell-Thick	INVSLU Combination	0.5736	-4.3074	0.48	-	
29.65	967	339 Shell-Thick	INVSLU Combination	1.5540	-0.3035	0.64	-	
11.73	968	340 Shell-Thick	INVSLE Combination	1.7680	0.3356	1.72	-	
11.73	968	340 Shell-Thick	INVSLE Combination	0.6948	-1.2290	1.30	-	
11.49	968	340 Shell-Thick	INVSLE Combination	0.5125	-1.2047	1.30	-	
11.49	968	340 Shell-Thick	INVSLE Combination	1.5954	0.3534	1.72	-	
17.62	968	340 Shell-Thick	INVSLE Combination	1.2130	0.1285	1.14	-	
17.62	968	340 Shell-Thick	INVSLE Combination	0.5076	-2.2194	0.86	-	
17.25	968	340 Shell-Thick	INVSLE Combination	0.3852	-2.1746	0.86	-	
17.25	968	340 Shell-Thick	INVSLE Combination	1.1002	0.1666	1.14	-	
15.84	968	340 Shell-Thick	INVSLU Combination	2.9039	0.4531	2.90	-	
15.84	968	340 Shell-Thick	INVSLU Combination	1.0780	-1.6591	2.19	-	
15.51	968	340 Shell-Thick	INVSLU Combination	0.7732	-1.6263	2.19	-	
15.51	968	340 Shell-Thick	INVSLU Combination	2.6090	0.4771	2.90	-	
29.67	968	340 Shell-Thick	INVSLU Combination	1.6376	-0.2956	1.53	-	
29.67	968	340 Shell-Thick	INVSLU Combination	0.6852	-4.2469	1.16	-	
29.05	968	340 Shell-Thick	INVSLU Combination	0.5200	-4.1600	1.16	-	
29.05	968	340 Shell-Thick	INVSLU Combination	1.4852	-0.2157	1.53	-	
11.50	969	341 Shell-Thick	INVSLE Combination	1.7553	0.3635	2.75	-	
11.50	969	341 Shell-Thick	INVSLE Combination	0.7310	-1.1625	2.08	-	
11.12	969	341 Shell-Thick	INVSLE Combination	0.4386	-1.1290	2.08	-	
11.12	969	341 Shell-Thick	INVSLE Combination	1.4782	0.3868	2.75	-	
17.27	969	341 Shell-Thick	INVSLE Combination	1.2109	0.1781	1.83	-	
17.27	969	341 Shell-Thick	INVSLE Combination	0.5359	-2.1104	1.39	-	
16.69	969	341 Shell-Thick	INVSLE Combination	0.3393	-2.0467	1.39	-	
16.69	969	341 Shell-Thick	INVSLE Combination	1.0292	0.2313	1.83	-	
15.53	969	341 Shell-Thick	INVSLU Combination	2.8694	0.4908	4.65	-	
15.53	969	341 Shell-Thick	INVSLU Combination	1.1303	-1.5694	3.51	-	
15.01	969	341 Shell-Thick	INVSLU Combination	0.6420	-1.5242	3.51	-	
15.01	969	341 Shell-Thick	INVSLU Combination	2.3973	0.5222	4.65	-	
29.08	969	341 Shell-Thick	INVSLU Combination	1.6348	-0.2015	2.47	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 318 di 416
29.08	969	341 Shell-Thick	INVSLU Combination	0.7235	-4.0507	1.87	-	
28.08	969	341 Shell-Thick	INVSLU Combination	0.4580	-3.9251	1.87	-	
28.08	969	341 Shell-Thick	INVSLU Combination	1.3894	-0.0872	2.47	-	
11.14	970	342 Shell-Thick	INVSLE Combination	1.7065	0.4005	3.84	-	
11.14	970	342 Shell-Thick	INVSLE Combination	0.7528	-1.0676	2.92	-	
10.60	970	342 Shell-Thick	INVSLE Combination	0.3452	-1.0313	2.92	-	
10.60	970	342 Shell-Thick	INVSLE Combination	1.3180	0.4238	3.84	-	
16.72	970	342 Shell-Thick	INVSLE Combination	1.1874	0.2465	2.56	-	
16.72	970	342 Shell-Thick	INVSLE Combination	0.5563	-1.9534	1.95	-	
15.91	970	342 Shell-Thick	INVSLE Combination	0.2814	-1.8806	1.95	-	
15.91	970	342 Shell-Thick	INVSLE Combination	0.9315	0.3061	2.56	-	
15.03	970	342 Shell-Thick	INVSLU Combination	2.7690	0.5407	6.47	-	
15.03	970	342 Shell-Thick	INVSLU Combination	1.1550	-1.4413	4.90	-	
14.32	970	342 Shell-Thick	INVSLU Combination	0.4757	-1.3923	4.90	-	
14.32	970	342 Shell-Thick	INVSLU Combination	2.1091	0.5721	6.47	-	
28.14	970	342 Shell-Thick	INVSLU Combination	1.6029	-0.0687	3.45	-	
28.14	970	342 Shell-Thick	INVSLU Combination	0.7510	-3.7666	2.63	-	
26.76	970	342 Shell-Thick	INVSLU Combination	0.3799	-3.6190	2.63	-	
26.76	970	342 Shell-Thick	INVSLU Combination	1.2575	0.0652	3.45	-	
10.63	971	343 Shell-Thick	INVSLE Combination	1.6088	0.4397	5.01	-	
10.63	971	343 Shell-Thick	INVSLE Combination	0.7528	-0.9505	3.82	-	
9.94	971	343 Shell-Thick	INVSLE Combination	0.2224	-0.9196	3.82	-	
9.94	971	343 Shell-Thick	INVSLE Combination	1.0989	0.4557	5.01	-	
15.95	971	343 Shell-Thick	INVSLE Combination	1.1332	0.3232	3.35	-	
15.95	971	343 Shell-Thick	INVSLE Combination	0.5634	-1.7580	2.56	-	
14.90	971	343 Shell-Thick	INVSLE Combination	0.2044	-1.6879	2.56	-	
14.90	971	343 Shell-Thick	INVSLE Combination	0.7956	0.3790	3.35	-	
14.35	971	343 Shell-Thick	INVSLU Combination	2.5824	0.5936	8.42	-	
14.35	971	343 Shell-Thick	INVSLU Combination	1.1403	-1.2831	6.39	-	
13.42	971	343 Shell-Thick	INVSLU Combination	0.3029	-1.2415	6.39	-	
13.42	971	343 Shell-Thick	INVSLU Combination	1.7197	0.6153	8.42	-	
26.84	971	343 Shell-Thick	INVSLU Combination	1.5298	0.0847	4.52	-	
26.84	971	343 Shell-Thick	INVSLU Combination	0.7606	-3.4109	3.46	-	
25.06	971	343 Shell-Thick	INVSLU Combination	0.2592	-3.2604	3.46	-	
25.06	971	343 Shell-Thick	INVSLU Combination	1.0741	0.2219	4.52	-	
9.97	972	344 Shell-Thick	INVSLE Combination	1.4461	0.4719	6.29	-	
9.97	972	344 Shell-Thick	INVSLE Combination	0.7179	-0.8190	4.82	-	
9.97	972	344 Shell-Thick	INVSLE Combination	0.0966	-0.8043	4.82	-	
9.12	972	344 Shell-Thick	INVSLE Combination	0.8012	0.4715	6.29	-	
9.12	972	344 Shell-Thick	INVSLE Combination					

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 319 di 416
14.96	972	344 Shell-Thick	INVSLE Combination	1.0364	0.3952	4.23	-	
14.96	972	344 Shell-Thick	INVSLE Combination	0.5479	-1.5355	3.25	-	
13.66	972	344 Shell-Thick	INVSLE Combination	0.0543	-1.4844	3.25	-	
13.66	972	344 Shell-Thick	INVSLE Combination	0.6069	0.4330	4.23	-	
13.46	972	344 Shell-Thick	INVSLE Combination	2.2847	0.6371	10.52	-	
13.46	972	344 Shell-Thick	INVSLE Combination	1.0661	-1.1056	8.02	-	
12.31	972	344 Shell-Thick	INVSLE Combination	0.1304	-1.0858	8.02	-	
12.31	972	344 Shell-Thick	INVSLE Combination	1.1989	0.6365	10.52	-	
25.16	972	344 Shell-Thick	INVSLE Combination	1.3991	0.2381	5.71	-	
25.16	972	344 Shell-Thick	INVSLE Combination	0.7396	-3.0024	4.39	-	
22.97	972	344 Shell-Thick	INVSLE Combination	-0.0323	-2.8765	4.39	-	
22.97	972	344 Shell-Thick	INVSLE Combination	0.8193	0.3543	5.71	-	
9.16	973	345 Shell-Thick	INVSLE Combination	1.1942	0.4854	7.72	-	
9.16	973	345 Shell-Thick	INVSLE Combination	0.6314	-0.6837	5.95	-	
8.13	973	345 Shell-Thick	INVSLE Combination	-0.0572	-0.6967	5.95	-	
8.13	973	345 Shell-Thick	INVSLE Combination	0.3964	0.4588	7.72	-	
13.73	973	345 Shell-Thick	INVSLE Combination	0.8789	0.4449	5.21	-	
13.73	973	345 Shell-Thick	INVSLE Combination	0.4974	-1.3022	4.04	-	
12.18	973	345 Shell-Thick	INVSLE Combination	-0.1798	-1.2861	4.04	-	
12.18	973	345 Shell-Thick	INVSLE Combination	0.3439	0.4511	5.21	-	
12.36	973	345 Shell-Thick	INVSLE Combination	1.8396	0.6554	12.84	-	
12.36	973	345 Shell-Thick	INVSLE Combination	0.9058	-0.9230	9.85	-	
10.98	973	345 Shell-Thick	INVSLE Combination	-0.0772	-0.9406	9.85	-	
10.98	973	345 Shell-Thick	INVSLE Combination	0.5430	0.6193	12.84	-	
23.09	973	345 Shell-Thick	INVSLE Combination	1.1866	0.3618	7.04	-	
23.09	973	345 Shell-Thick	INVSLE Combination	0.6715	-2.5682	5.45	-	
20.47	973	345 Shell-Thick	INVSLE Combination	-0.4306	-2.4926	5.45	-	
20.47	973	345 Shell-Thick	INVSLE Combination	0.4643	0.4355	7.04	-	
8.18	974	346 Shell-Thick	INVSLE Combination	0.8231	0.4674	9.33	-	
8.18	974	346 Shell-Thick	INVSLE Combination	0.4696	-0.5563	7.25	-	
6.97	974	346 Shell-Thick	INVSLE Combination	-0.2790	-0.6100	7.25	-	
6.97	974	346 Shell-Thick	INVSLE Combination	-0.0204	0.4119	9.33	-	
12.27	974	346 Shell-Thick	INVSLE Combination	0.6380	0.4544	6.34	-	
12.27	974	346 Shell-Thick	INVSLE Combination	0.3939	-1.0742	4.96	-	
10.44	974	346 Shell-Thick	INVSLE Combination	-0.5084	-1.1131	4.96	-	
10.44	974	346 Shell-Thick	INVSLE Combination	-0.1510	0.4034	6.34	-	
11.04	974	346 Shell-Thick	INVSLE Combination	1.2020	0.6310	15.44	-	
11.04	974	346 Shell-Thick	INVSLE Combination	0.6453	-0.7511	11.93	-	
9.41	974	346 Shell-Thick	INVSLE Combination	-0.3766	-0.8235	11.93	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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9.41	974	346 Shell-Thick	INVSLU Combination	-0.0275	0.5574	15.44	-	
20.63	974	346 Shell-Thick	INVSLU Combination	0.8613	0.4278	8.56	-	
20.63	974	346 Shell-Thick	INVSLU Combination	0.5317	-2.1343	6.70	-	
17.56	974	346 Shell-Thick	INVSLU Combination	-0.9780	-2.1429	6.70	-	
17.56	974	346 Shell-Thick	INVSLU Combination	-0.4184	0.4294	8.56	-	
7.03	975	347 Shell-Thick	INVSLE Combination	0.2937	0.4032	11.18	-	
7.03	975	347 Shell-Thick	INVSLE Combination	0.2140	-0.4506	8.79	-	
5.63	975	347 Shell-Thick	INVSLE Combination	-0.5972	-0.5552	8.79	-	
5.63	975	347 Shell-Thick	INVSLE Combination	-0.5227	0.2997	11.18	-	
10.55	975	347 Shell-Thick	INVSLE Combination	0.2825	0.4020	7.66	-	
10.55	975	347 Shell-Thick	INVSLE Combination	0.2016	-0.8723	6.06	-	
8.45	975	347 Shell-Thick	INVSLE Combination	-0.9691	-0.9803	6.06	-	
8.45	975	347 Shell-Thick	INVSLE Combination	-0.8874	0.2939	7.66	-	
9.49	975	347 Shell-Thick	INVSLU Combination	0.3982	0.5443	18.39	-	
9.49	975	347 Shell-Thick	INVSLU Combination	0.2889	-0.6084	14.36	-	
7.60	975	347 Shell-Thick	INVSLU Combination	-0.8062	-0.7495	14.36	-	
7.60	975	347 Shell-Thick	INVSLU Combination	-0.7057	0.4055	18.39	-	
17.74	975	347 Shell-Thick	INVSLU Combination	0.3166	0.3997	10.34	-	
17.74	975	347 Shell-Thick	INVSLU Combination	0.1764	-1.7353	8.18	-	
14.22	975	347 Shell-Thick	INVSLU Combination	-1.7305	-1.8505	8.18	-	
14.22	975	347 Shell-Thick	INVSLU Combination	-1.6338	0.3117	10.34	-	
5.71	976	348 Shell-Thick	INVSLE Combination	-0.2211	0.2817	13.35	-	
5.71	976	348 Shell-Thick	INVSLE Combination	-0.0737	-0.3780	10.65	-	
4.13	976	348 Shell-Thick	INVSLE Combination	-1.0504	-0.5460	10.65	-	
4.13	976	348 Shell-Thick	INVSLE Combination	-1.2039	0.1169	13.35	-	
8.57	976	348 Shell-Thick	INVSLE Combination	-0.4349	0.2732	9.22	-	
8.57	976	348 Shell-Thick	INVSLE Combination	-0.2098	-0.7114	7.42	-	
6.21	976	348 Shell-Thick	INVSLE Combination	-1.6086	-0.9104	7.42	-	
6.21	976	348 Shell-Thick	INVSLE Combination	-1.8630	0.0926	9.22	-	
7.70	976	348 Shell-Thick	INVSLU Combination	-0.2985	0.3804	21.80	-	
7.70	976	348 Shell-Thick	INVSLU Combination	-0.0995	-0.5103	17.28	-	
5.57	976	348 Shell-Thick	INVSLU Combination	-1.4181	-0.7371	17.28	-	
5.57	976	348 Shell-Thick	INVSLU Combination	-1.6252	0.1578	21.80	-	
14.44	976	348 Shell-Thick	INVSLU Combination	-0.8724	0.2558	12.45	-	
14.44	976	348 Shell-Thick	INVSLU Combination	-0.4885	-1.3939	10.01	-	
10.47	976	348 Shell-Thick	INVSLU Combination	-2.7512	-1.6561	10.01	-	
10.47	976	348 Shell-Thick	INVSLU Combination	-3.2122	0.0430	12.45	-	
4.21	977	349 Shell-Thick	INVSLE Combination	-0.9202	0.0919	15.91	-	
4.21	977	349 Shell-Thick	INVSLE Combination	-0.4910	-0.3524	12.96	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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2.50	977	349 Shell-Thick	INVSLE Combination	-1.6691	-0.5983	12.96	-
2.50	977	349 Shell-Thick	INVSLE Combination	-2.1204	-0.1401	15.91	-
6.35	977	349 Shell-Thick	INVSLE Combination	-1.4174	0.0495	11.08	-
6.35	977	349 Shell-Thick	INVSLE Combination	-0.7861	-0.6137	9.12	-
3.77	977	349 Shell-Thick	INVSLE Combination	-2.4592	-0.9263	9.12	-
3.77	977	349 Shell-Thick	INVSLE Combination	-3.1445	-0.2284	11.08	-
5.69	977	349 Shell-Thick	INVSLE Combination	-1.2423	0.1240	25.79	-
5.69	977	349 Shell-Thick	INVSLE Combination	-0.6628	-0.4758	20.84	-
3.37	977	349 Shell-Thick	INVSLE Combination	-2.2532	-0.8077	20.84	-
3.37	977	349 Shell-Thick	INVSLE Combination	-2.8625	-0.1892	25.79	-
10.72	977	349 Shell-Thick	INVSLE Combination	-2.4353	-0.0371	14.96	-
10.72	977	349 Shell-Thick	INVSLE Combination	-1.3903	-1.1484	12.31	-
6.39	977	349 Shell-Thick	INVSLE Combination	-4.0765	-1.5978	12.31	-
6.39	977	349 Shell-Thick	INVSLE Combination	-5.2409	-0.4089	14.96	-
2.62	978	350 Shell-Thick	INVSLE Combination	-1.8581	-0.2011	19.89	-
2.62	978	350 Shell-Thick	INVSLE Combination	-0.9190	-0.3349	16.64	-
0.31	978	350 Shell-Thick	INVSLE Combination	-3.1881	-0.8298	16.64	-
0.31	978	350 Shell-Thick	INVSLE Combination	-4.1533	-0.6385	19.89	-
3.97	978	350 Shell-Thick	INVSLE Combination	-2.6750	-0.3194	14.00	-
3.97	978	350 Shell-Thick	INVSLE Combination	-1.3040	-0.5104	11.85	-
0.20	978	350 Shell-Thick	INVSLE Combination	-4.5034	-1.1937	11.85	-
0.20	978	350 Shell-Thick	INVSLE Combination	-5.9244	-0.8919	14.00	-
3.53	978	350 Shell-Thick	INVSLE Combination	-2.5084	-0.2715	31.96	-
3.53	978	350 Shell-Thick	INVSLE Combination	-1.2407	-0.4521	26.43	-
0.52	978	350 Shell-Thick	INVSLE Combination	-4.3039	-1.1202	26.43	-
0.52	978	350 Shell-Thick	INVSLE Combination	-5.6069	-0.8620	31.96	-
6.74	978	350 Shell-Thick	INVSLE Combination	-4.3473	-0.5615	18.90	-
6.74	978	350 Shell-Thick	INVSLE Combination	-2.0919	-0.8696	16.00	-
0.27	978	350 Shell-Thick	INVSLE Combination	-7.1959	-1.9387	16.00	-
0.27	978	350 Shell-Thick	INVSLE Combination	-9.5497	-1.4104	18.90	-
0.27	988	351 Shell-Thick	INVSLE Combination	-2.8646	-0.3936	-12.80	-
0.27	988	351 Shell-Thick	INVSLE Combination	-1.8390	-0.5471	-9.95	-
0.27	988	351 Shell-Thick	INVSLE Combination	-0.5163	-0.3141	-9.95	-
2.31	988	351 Shell-Thick	INVSLE Combination	-1.5070	-0.1826	-12.80	-
2.31	988	351 Shell-Thick	INVSLE Combination	-4.0169	-0.5410	-17.92	-
0.19	988	351 Shell-Thick	INVSLE Combination	-2.5432	-0.7710	-13.77	-
0.19	988	351 Shell-Thick	INVSLE Combination	-0.7124	-0.4567	-13.77	-
3.36	988	351 Shell-Thick	INVSLE Combination	-2.1159	-0.2717	-17.92	-
3.36	988	351 Shell-Thick	INVSLE Combination	-3.8672	-0.5313	-17.28	-
0.45							

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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0.45	988	351 Shell-Thick	INVSLU Combination	-2.4827	-0.7386	-13.44		
3.11	988	351 Shell-Thick	INVSLU Combination	-0.6971	-0.4241	-13.44	-	
3.11	988	351 Shell-Thick	INVSLU Combination	-2.0345	-0.2465	-17.28	-	
0.25	988	351 Shell-Thick	INVSLU Combination	-6.3756	-0.8428	-28.39		
0.25	988	351 Shell-Thick	INVSLU Combination	-3.9845	-1.2293	-21.57		
5.52	988	351 Shell-Thick	INVSLU Combination	-1.1136	-0.7486	-21.57	-	
5.52	988	351 Shell-Thick	INVSLU Combination	-3.3624	-0.4542	-28.39	-	
2.18	989	352 Shell-Thick	INVSLE Combination	-1.8730	-0.1390	-10.36	-	
2.18	989	352 Shell-Thick	INVSLE Combination	-1.3443	-0.5964	-7.64	-	
4.57	989	352 Shell-Thick	INVSLE Combination	-0.2899	-0.5180	-7.64	-	
4.57	989	352 Shell-Thick	INVSLE Combination	-0.8070	-0.0671	-10.36	-	
3.17	989	352 Shell-Thick	INVSLE Combination	-2.7135	-0.2106	-14.65	-	
3.17	989	352 Shell-Thick	INVSLE Combination	-1.9290	-0.8807	-10.70	-	
6.63	989	352 Shell-Thick	INVSLE Combination	-0.4547	-0.8005	-10.70	-	
6.63	989	352 Shell-Thick	INVSLE Combination	-1.2027	-0.1530	-14.65	-	
2.95	989	352 Shell-Thick	INVSLU Combination	-2.5285	-0.1877	-13.99	-	
2.95	989	352 Shell-Thick	INVSLU Combination	-1.8148	-0.8052	-10.31	-	
6.17	989	352 Shell-Thick	INVSLU Combination	-0.3914	-0.6993	-10.31	-	
6.17	989	352 Shell-Thick	INVSLU Combination	-1.0894	-0.0905	-13.99	-	
5.19	989	352 Shell-Thick	INVSLU Combination	-4.4341	-0.3570	-23.42	-	
5.19	989	352 Shell-Thick	INVSLU Combination	-3.1259	-1.4625	-16.96	-	
10.84	989	352 Shell-Thick	INVSLU Combination	-0.7922	-1.3787	-16.96	-	
10.84	989	352 Shell-Thick	INVSLU Combination	-2.0127	-0.3288	-23.42	-	
4.45	990	353 Shell-Thick	INVSLE Combination	-1.1464	-0.0218	-8.42	-	
4.45	990	353 Shell-Thick	INVSLE Combination	-0.9444	-0.7620	-5.98	-	
4.45	990	353 Shell-Thick	INVSLE Combination	-0.0935	-0.7952	-5.98	-	
6.60	990	353 Shell-Thick	INVSLE Combination	-0.3015	-0.0497	-8.42	-	
6.60	990	353 Shell-Thick	INVSLE Combination	-1.7262	-0.0843	-12.02	-	
6.45	990	353 Shell-Thick	INVSLE Combination	-1.4006	-1.1631	-8.47	-	
6.45	990	353 Shell-Thick	INVSLE Combination	-0.1991	-1.2474	-8.47	-	
9.56	990	353 Shell-Thick	INVSLE Combination	-0.5145	-0.1737	-12.02	-	
9.56	990	353 Shell-Thick	INVSLU Combination	-1.5476	-0.0294	-11.37	-	
6.01	990	353 Shell-Thick	INVSLU Combination	-1.2749	-1.0287	-8.07	-	
6.01	990	353 Shell-Thick	INVSLU Combination	-0.1262	-1.0736	-8.07	-	
8.91	990	353 Shell-Thick	INVSLU Combination	-0.4071	-0.0671	-11.37	-	
8.91	990	353 Shell-Thick	INVSLU Combination	-2.9132	-0.2121	-19.39	-	
10.53	990	353 Shell-Thick	INVSLU Combination	-2.3346	-1.9839	-13.57	-	
10.53	990	353 Shell-Thick	INVSLU Combination	-0.4154	-2.1728	-13.57	-	
15.63	990	353 Shell-Thick	INVSLU Combination	-0.9506	-0.4274	-19.39	-	
15.63	990	353 Shell-Thick	INVSLU Combination					

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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6.50	991	354 Shell-Thick	INVSLE Combination	-0.6192	-0.0175	-6.88	-
6.50	991	354 Shell-Thick	INVSLE Combination	-0.6796	-1.0083	-4.77	-
8.35	991	354 Shell-Thick	INVSLE Combination	0.0162	-1.1170	-4.77	-
8.35	991	354 Shell-Thick	INVSLE Combination	0.0567	-0.1118	-6.88	-
9.41	991	354 Shell-Thick	INVSLE Combination	-0.9889	-0.1211	-9.91	-
9.41	991	354 Shell-Thick	INVSLE Combination	-1.0387	-1.5628	-6.83	-
12.10	991	354 Shell-Thick	INVSLE Combination	-0.0473	-1.7541	-6.83	-
12.10	991	354 Shell-Thick	INVSLE Combination	-0.0087	-0.3034	-9.91	-
8.77	991	354 Shell-Thick	INVSLE Combination	-0.8359	-0.0236	-9.29	-
8.77	991	354 Shell-Thick	INVSLE Combination	-0.9175	-1.3611	-6.44	-
11.27	991	354 Shell-Thick	INVSLE Combination	0.0219	-1.5079	-6.44	-
11.27	991	354 Shell-Thick	INVSLE Combination	0.0765	-0.1509	-9.29	-
15.36	991	354 Shell-Thick	INVSLE Combination	-1.7457	-0.3331	-16.11	-
15.36	991	354 Shell-Thick	INVSLE Combination	-1.7737	-2.6978	-11.05	-
19.80	991	354 Shell-Thick	INVSLE Combination	-0.1774	-3.0582	-11.05	-
19.80	991	354 Shell-Thick	INVSLE Combination	-0.1426	-0.6956	-16.11	-
8.27	992	355 Shell-Thick	INVSLE Combination	-0.2556	-0.0959	-5.63	-
8.27	992	355 Shell-Thick	INVSLE Combination	-0.5191	-1.3024	-3.84	-
9.83	992	355 Shell-Thick	INVSLE Combination	0.0539	-1.4698	-3.84	-
9.83	992	355 Shell-Thick	INVSLE Combination	0.3302	-0.2425	-5.63	-
11.98	992	355 Shell-Thick	INVSLE Combination	-0.4656	-0.2733	-8.19	-
11.98	992	355 Shell-Thick	INVSLE Combination	-0.8145	-2.0290	-5.56	-
14.28	992	355 Shell-Thick	INVSLE Combination	0.0084	-2.3034	-5.56	-
14.28	992	355 Shell-Thick	INVSLE Combination	0.2876	-0.5284	-8.19	-
11.16	992	355 Shell-Thick	INVSLE Combination	-0.3450	-0.1295	-7.61	-
11.16	992	355 Shell-Thick	INVSLE Combination	-0.7007	-1.7582	-5.19	-
13.27	992	355 Shell-Thick	INVSLE Combination	0.0728	-1.9842	-5.19	-
13.27	992	355 Shell-Thick	INVSLE Combination	0.4522	-0.3274	-7.61	-
19.58	992	355 Shell-Thick	INVSLE Combination	-0.8956	-0.6365	-13.41	-
19.58	992	355 Shell-Thick	INVSLE Combination	-1.4192	-3.5163	-9.07	-
23.38	992	355 Shell-Thick	INVSLE Combination	-0.0847	-4.0098	-9.07	-
23.38	992	355 Shell-Thick	INVSLE Combination	0.3883	-1.1135	-13.41	-
9.77	993	356 Shell-Thick	INVSLE Combination	-0.0117	-0.2395	-4.61	-
9.77	993	356 Shell-Thick	INVSLE Combination	-0.4281	-1.6290	-3.11	-
11.08	993	356 Shell-Thick	INVSLE Combination	0.0440	-1.8312	-3.11	-
11.08	993	356 Shell-Thick	INVSLE Combination	0.5403	-0.4169	-4.61	-
14.18	993	356 Shell-Thick	INVSLE Combination	-0.1048	-0.5168	-6.75	-
14.18	993	356 Shell-Thick	INVSLE Combination	-0.6838	-2.5404	-4.53	-
16.12	993	356 Shell-Thick	INVSLE Combination	-9.030E-04	-2.8627	-4.53	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 324 di 416
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16.12	993	356 Shell-Thick	INVSLE Combination	0.4246	-0.8129	-6.75	-
13.19	993	356 Shell-Thick	INVSLE Combination	-0.0158	-0.3233	-6.22	-
13.19	993	356 Shell-Thick	INVSLE Combination	-0.5779	-2.1992	-4.19	-
14.96	993	356 Shell-Thick	INVSLE Combination	0.0594	-2.4721	-4.19	-
14.96	993	356 Shell-Thick	INVSLE Combination	0.7774	-0.5628	-6.22	-
23.20	993	356 Shell-Thick	INVSLE Combination	-0.2954	-1.0846	-11.12	-
23.20	993	356 Shell-Thick	INVSLE Combination	-1.2071	-4.4058	-7.45	-
26.42	993	356 Shell-Thick	INVSLE Combination	-0.0928	-4.9743	-7.45	-
26.42	993	356 Shell-Thick	INVSLE Combination	0.5732	-1.6234	-11.12	-
11.03	994	357 Shell-Thick	INVSLE Combination	0.1478	-0.4226	-3.74	-
11.03	994	357 Shell-Thick	INVSLE Combination	-0.3814	-1.9660	-2.50	-
12.12	994	357 Shell-Thick	INVSLE Combination	0.0050	-2.1817	-2.50	-
12.12	994	357 Shell-Thick	INVSLE Combination	0.6583	-0.6121	-3.74	-
16.04	994	357 Shell-Thick	INVSLE Combination	0.1391	-0.8144	-5.51	-
16.04	994	357 Shell-Thick	INVSLE Combination	-0.6144	-3.0641	-3.67	-
16.04	994	357 Shell-Thick	INVSLE Combination	-0.0520	-3.4043	-3.67	-
17.65	994	357 Shell-Thick	INVSLE Combination	0.4960	-1.1248	-5.51	-
17.65	994	357 Shell-Thick	INVSLE Combination	0.1995	-0.5705	-5.05	-
14.89	994	357 Shell-Thick	INVSLE Combination	-0.5149	-2.6541	-3.37	-
14.89	994	357 Shell-Thick	INVSLE Combination	0.0068	-2.9453	-3.37	-
16.36	994	357 Shell-Thick	INVSLE Combination	0.9906	-0.8264	-5.05	-
16.36	994	357 Shell-Thick	INVSLE Combination	0.1213	-1.6165	-9.14	-
26.28	994	357 Shell-Thick	INVSLE Combination	-1.0913	-5.3120	-6.07	-
26.28	994	357 Shell-Thick	INVSLE Combination	-0.1688	-5.9069	-6.07	-
28.96	994	357 Shell-Thick	INVSLE Combination	0.6696	-2.1742	-9.14	-
28.96	994	357 Shell-Thick	INVSLE Combination	0.3022	-0.6227	-2.99	-
12.08	995	358 Shell-Thick	INVSLE Combination	-0.3609	-2.2934	-1.98	-
12.08	995	358 Shell-Thick	INVSLE Combination	-0.0494	-2.5033	-1.98	-
12.96	995	358 Shell-Thick	INVSLE Combination	0.7139	-0.8070	-2.99	-
12.96	995	358 Shell-Thick	INVSLE Combination	0.2506	-1.1343	-4.43	-
17.59	995	358 Shell-Thick	INVSLE Combination	-0.5818	-3.5720	-2.93	-
17.59	995	358 Shell-Thick	INVSLE Combination	-0.1259	-3.9009	-2.93	-
18.90	995	358 Shell-Thick	INVSLE Combination	0.5247	-1.4329	-4.43	-
18.90	995	358 Shell-Thick	INVSLE Combination	0.4157	-0.8407	-4.04	-
16.31	995	358 Shell-Thick	INVSLE Combination	-0.4873	-3.0961	-2.68	-
16.31	995	358 Shell-Thick	INVSLE Combination	-0.0667	-3.3795	-2.68	-
17.50	995	358 Shell-Thick	INVSLE Combination	1.1011	-1.0895	-4.04	-
17.50	995	358 Shell-Thick	INVSLE Combination	0.3383	-2.1816	-7.39	-
28.85	995	358 Shell-Thick	INVSLE Combination	-1.0337	-6.1891	-4.88	-
28.85	995	358 Shell-Thick	INVSLE Combination				

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 325 di 416
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31.05	995	358 Shell-Thick	INVS LU Combination	-0.2826	-6.7616	-4.88	-
31.05	995	358 Shell-Thick	INVS LU Combination	0.7084	-2.7141	-7.39	-
12.93	996	359 Shell-Thick	INVS LE Combination	0.4107	-0.8195	-2.33	-
12.93	996	359 Shell-Thick	INVS LE Combination	-0.3536	-2.5934	-1.54	-
13.62	996	359 Shell-Thick	INVS LE Combination	-0.1092	-2.7820	-1.54	-
13.62	996	359 Shell-Thick	INVS LE Combination	0.7287	-0.9851	-2.33	-
18.85	996	359 Shell-Thick	INVS LE Combination	0.3161	-1.4463	-3.47	-
18.85	996	359 Shell-Thick	INVS LE Combination	-0.5679	-4.0366	-2.28	-
19.89	996	359 Shell-Thick	INVS LE Combination	-0.2088	-4.3315	-2.28	-
19.89	996	359 Shell-Thick	INVS LE Combination	0.5266	-1.7131	-3.47	-
17.46	996	359 Shell-Thick	INVS LU Combination	0.6043	-1.1064	-3.14	-
17.46	996	359 Shell-Thick	INVS LU Combination	-0.4773	-3.5010	-2.07	-
18.39	996	359 Shell-Thick	INVS LU Combination	-0.1474	-3.7557	-2.07	-
18.39	996	359 Shell-Thick	INVS LU Combination	1.1423	-1.3298	-3.14	-
30.97	996	359 Shell-Thick	INVS LU Combination	0.4267	-2.7291	-5.80	-
30.97	996	359 Shell-Thick	INVS LU Combination	-1.0066	-6.9907	-3.81	-
32.71	996	359 Shell-Thick	INVS LU Combination	-0.4127	-7.5034	-3.81	-
32.71	996	359 Shell-Thick	INVS LU Combination	0.7109	-3.2033	-5.80	-
13.60	997	360 Shell-Thick	INVS LE Combination	0.4849	-0.9972	-1.73	-
13.60	997	360 Shell-Thick	INVS LE Combination	-0.3508	-2.8516	-1.14	-
14.12	997	360 Shell-Thick	INVS LE Combination	-0.1681	-3.0067	-1.14	-
14.12	997	360 Shell-Thick	INVS LE Combination	0.7192	-1.1331	-1.73	-
19.85	997	360 Shell-Thick	INVS LE Combination	0.3590	-1.7270	-2.58	-
19.85	997	360 Shell-Thick	INVS LE Combination	-0.5610	-4.4368	-1.69	-
20.63	997	360 Shell-Thick	INVS LE Combination	-0.2916	-4.6790	-1.69	-
20.63	997	360 Shell-Thick	INVS LE Combination	0.5135	-1.9452	-2.58	-
18.36	997	360 Shell-Thick	INVS LU Combination	0.7424	-1.3463	-2.33	-
18.36	997	360 Shell-Thick	INVS LU Combination	-0.4736	-3.8497	-1.53	-
19.06	997	360 Shell-Thick	INVS LU Combination	-0.2269	-4.0590	-1.53	-
19.06	997	360 Shell-Thick	INVS LU Combination	1.1404	-1.5296	-2.33	-
32.64	997	360 Shell-Thick	INVS LU Combination	0.4847	-3.2208	-4.34	-
32.64	997	360 Shell-Thick	INVS LU Combination	-0.9914	-7.6816	-2.84	-
33.96	997	360 Shell-Thick	INVS LU Combination	-0.5443	-8.1021	-2.84	-
33.96	997	360 Shell-Thick	INVS LU Combination	0.6932	-3.6076	-4.34	-
14.11	998	361 Shell-Thick	INVS LE Combination	0.5375	-1.1433	-1.17	-
14.11	998	361 Shell-Thick	INVS LE Combination	-0.3459	-3.0569	-0.77	-
14.46	998	361 Shell-Thick	INVS LE Combination	-0.2210	-3.1697	-0.77	-
14.46	998	361 Shell-Thick	INVS LE Combination	0.6957	-1.2418	-1.17	-
20.61	998	361 Shell-Thick	INVS LE Combination	0.3889	-1.9574	-1.76	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 326 di 416
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20.61	998	361 Shell-Thick	INVSLE Combination	-0.5515	-4.7551	-1.15	-
21.14	998	361 Shell-Thick	INVSLE Combination	-0.3667	-4.9313	-1.15	-
21.14	998	361 Shell-Thick	INVSLE Combination	0.4928	-2.1154	-1.76	-
19.05	998	361 Shell-Thick	INVSLE Combination	0.8418	-1.5435	-1.58	-
19.05	998	361 Shell-Thick	INVSLE Combination	-0.4670	-4.1268	-1.04	-
19.52	998	361 Shell-Thick	INVSLE Combination	-0.2983	-4.2791	-1.04	-
19.52	998	361 Shell-Thick	INVSLE Combination	1.1110	-1.6764	-1.58	-
33.91	998	361 Shell-Thick	INVSLE Combination	0.5250	-3.6237	-2.96	-
33.91	998	361 Shell-Thick	INVSLE Combination	-0.9722	-8.2313	-1.93	-
34.81	998	361 Shell-Thick	INVSLE Combination	-0.6651	-8.5372	-1.93	-
34.81	998	361 Shell-Thick	INVSLE Combination	0.6652	-3.9037	-2.96	-
14.45	999	362 Shell-Thick	INVSLE Combination	0.5795	-1.2489	-0.65	-
14.45	999	362 Shell-Thick	INVSLE Combination	-0.3353	-3.2013	-0.42	-
14.65	999	362 Shell-Thick	INVSLE Combination	-0.2657	-3.2658	-0.42	-
14.65	999	362 Shell-Thick	INVSLE Combination	0.6661	-1.3048	-0.65	-
21.13	999	362 Shell-Thick	INVSLE Combination	0.4130	-2.1242	-0.98	-
21.13	999	362 Shell-Thick	INVSLE Combination	-0.5343	-4.9793	-0.64	-
21.42	999	362 Shell-Thick	INVSLE Combination	-0.4311	-5.0801	-0.64	-
21.42	999	362 Shell-Thick	INVSLE Combination	0.4699	-2.2137	-0.98	-
19.51	999	362 Shell-Thick	INVSLE Combination	0.9201	-1.6861	-0.88	-
19.51	999	362 Shell-Thick	INVSLE Combination	-0.4527	-4.3218	-0.57	-
19.78	999	362 Shell-Thick	INVSLE Combination	-0.3587	-4.4089	-0.57	-
19.78	999	362 Shell-Thick	INVSLE Combination	1.0678	-1.7615	-0.88	-
34.79	999	362 Shell-Thick	INVSLE Combination	0.5576	-3.9157	-1.64	-
34.79	999	362 Shell-Thick	INVSLE Combination	-0.9415	-8.6187	-1.07	-
35.29	999	362 Shell-Thick	INVSLE Combination	-0.7696	-8.7938	-1.07	-
35.29	999	362 Shell-Thick	INVSLE Combination	0.6344	-4.0742	-1.64	-
14.65	1000	363 Shell-Thick	INVSLE Combination	0.6154	-1.3082	-0.14	-
14.65	1000	363 Shell-Thick	INVSLE Combination	-0.3158	-3.2794	-9.204E-02	-
14.69	1000	363 Shell-Thick	INVSLE Combination	-0.3001	-3.2925	-9.204E-02	-
14.69	1000	363 Shell-Thick	INVSLE Combination	0.6332	-1.3187	-0.14	-
21.42	1000	363 Shell-Thick	INVSLE Combination	0.4351	-2.2181	-0.21	-
21.42	1000	363 Shell-Thick	INVSLE Combination	-0.5046	-5.1006	-0.14	-
21.48	1000	363 Shell-Thick	INVSLE Combination	-0.4813	-5.1211	-0.14	-
21.48	1000	363 Shell-Thick	INVSLE Combination	0.4470	-2.2349	-0.21	-
19.77	1000	363 Shell-Thick	INVSLE Combination	0.9844	-1.7661	-0.19	-
19.77	1000	363 Shell-Thick	INVSLE Combination	-0.4263	-4.4272	-0.12	-
19.83	1000	363 Shell-Thick	INVSLE Combination	-0.4052	-4.4448	-0.12	-
19.83	1000	363 Shell-Thick	INVSLE Combination	1.0145	-1.7803	-0.19	-

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 327 di 416
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35.28	1000	363 Shell-Thick	INVSLU Combination	0.5874	-4.0804	-0.36	-	
35.28	1000	363 Shell-Thick	INVSLU Combination	-0.8910	-8.8285	-0.23	-	
35.39	1000	363 Shell-Thick	INVSLU Combination	-0.8520	-8.8643	-0.23	-	
35.39	1000	363 Shell-Thick	INVSLU Combination	0.6034	-4.1103	-0.36	-	
14.69	1001	364 Shell-Thick	INVSLE Combination	0.6497	-1.3182	0.55	-	
14.69	1001	364 Shell-Thick	INVSLE Combination	-0.2865	-3.2881	0.36	-	
14.58	1001	364 Shell-Thick	INVSLE Combination	-0.3245	-3.2491	0.36	-	
14.58	1001	364 Shell-Thick	INVSLE Combination	0.5992	-1.2827	0.55	-	
21.49	1001	364 Shell-Thick	INVSLE Combination	0.4580	-2.2344	0.36	-	
21.49	1001	364 Shell-Thick	INVSLE Combination	-0.4616	-5.1144	0.24	-	
21.32	1001	364 Shell-Thick	INVSLE Combination	-0.5177	-5.0537	0.24	-	
21.32	1001	364 Shell-Thick	INVSLE Combination	0.4252	-2.1777	0.36	-	
19.83	1001	364 Shell-Thick	INVSLU Combination	1.0420	-1.7795	0.92	-	
19.83	1001	364 Shell-Thick	INVSLU Combination	-0.3868	-4.4390	0.60	-	
19.69	1001	364 Shell-Thick	INVSLU Combination	-0.4381	-4.3863	0.60	-	
19.69	1001	364 Shell-Thick	INVSLU Combination	0.9554	-1.7317	0.92	-	
35.39	1001	364 Shell-Thick	INVSLU Combination	0.6183	-4.1100	0.49	-	
35.39	1001	364 Shell-Thick	INVSLU Combination	-0.8198	-8.8527	0.32	-	
35.11	1001	364 Shell-Thick	INVSLU Combination	-0.9131	-8.7476	0.32	-	
35.11	1001	364 Shell-Thick	INVSLU Combination	0.5740	-4.0095	0.49	-	
14.59	1002	365 Shell-Thick	INVSLE Combination	0.6814	-1.2782	1.32	-	
14.59	1002	365 Shell-Thick	INVSLE Combination	-0.2468	-3.2268	0.86	-	
14.32	1002	365 Shell-Thick	INVSLE Combination	-0.3391	-3.1376	0.86	-	
14.32	1002	365 Shell-Thick	INVSLE Combination	0.5612	-1.1985	1.32	-	
21.33	1002	365 Shell-Thick	INVSLE Combination	0.4813	-2.1725	0.88	-	
21.33	1002	365 Shell-Thick	INVSLE Combination	-0.4039	-5.0196	0.57	-	
20.93	1002	365 Shell-Thick	INVSLE Combination	-0.5405	-4.8806	0.57	-	
20.93	1002	365 Shell-Thick	INVSLE Combination	0.4028	-2.0446	0.88	-	
19.70	1002	365 Shell-Thick	INVSLU Combination	1.0911	-1.7256	2.22	-	
19.70	1002	365 Shell-Thick	INVSLU Combination	-0.3331	-4.3562	1.45	-	
19.34	1002	365 Shell-Thick	INVSLU Combination	-0.4578	-4.2358	1.45	-	
19.34	1002	365 Shell-Thick	INVSLU Combination	0.8855	-1.6179	2.22	-	
35.14	1002	365 Shell-Thick	INVSLU Combination	0.6498	-4.0031	1.18	-	
35.14	1002	365 Shell-Thick	INVSLU Combination	-0.7257	-8.6894	0.78	-	
34.46	1002	365 Shell-Thick	INVSLU Combination	-0.9525	-8.4483	0.78	-	
34.46	1002	365 Shell-Thick	INVSLU Combination	0.5438	-3.7765	1.18	-	
14.34	1003	366 Shell-Thick	INVSLE Combination	0.7095	-1.1905	2.12	-	
14.34	1003	366 Shell-Thick	INVSLE Combination	-0.1979	-3.0971	1.39	-	
13.91	1003	366 Shell-Thick	INVSLE Combination	-0.3464	-2.9622	1.39	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 328 di 416
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13.91	1003	366 Shell-Thick	INVSLE Combination	0.5159	-1.0704	2.12	-	
20.95	1003	366 Shell-Thick	INVSLE Combination	0.5041	-2.0355	1.41	-	
20.95	1003	366 Shell-Thick	INVSLE Combination	-0.3341	-4.8188	0.93	-	
20.32	1003	366 Shell-Thick	INVSLE Combination	-0.5533	-4.6085	0.93	-	
20.32	1003	366 Shell-Thick	INVSLE Combination	0.3772	-1.8427	1.41	-	
19.35	1003	366 Shell-Thick	INVSLE Combination	1.1299	-1.6072	3.56	-	
19.35	1003	366 Shell-Thick	INVSLE Combination	-0.2671	-4.1811	2.33	-	
18.78	1003	366 Shell-Thick	INVSLE Combination	-0.4677	-3.9990	2.33	-	
18.78	1003	366 Shell-Thick	INVSLE Combination	0.7999	-1.4451	3.56	-	
34.50	1003	366 Shell-Thick	INVSLE Combination	0.6805	-3.7650	1.91	-	
34.50	1003	366 Shell-Thick	INVSLE Combination	-0.6131	-8.3430	1.25	-	
33.42	1003	366 Shell-Thick	INVSLE Combination	-0.9767	-7.9783	1.25	-	
33.42	1003	366 Shell-Thick	INVSLE Combination	0.5092	-3.4235	1.91	-	
13.93	1004	367 Shell-Thick	INVSLE Combination	0.7274	-1.0599	2.96	-	
13.93	1004	367 Shell-Thick	INVSLE Combination	-0.1415	-2.9027	1.95	-	
13.34	1004	367 Shell-Thick	INVSLE Combination	-0.3492	-2.7294	1.95	-	
13.34	1004	367 Shell-Thick	INVSLE Combination	0.4546	-0.9057	2.96	-	
20.35	1004	367 Shell-Thick	INVSLE Combination	0.5220	-1.8310	1.98	-	
20.35	1004	367 Shell-Thick	INVSLE Combination	-0.2545	-4.5182	1.31	-	
19.46	1004	367 Shell-Thick	INVSLE Combination	-0.5601	-4.2476	1.31	-	
19.46	1004	367 Shell-Thick	INVSLE Combination	0.3423	-1.5829	1.98	-	
18.81	1004	367 Shell-Thick	INVSLE Combination	1.1478	-1.4309	4.97	-	
18.81	1004	367 Shell-Thick	INVSLE Combination	-0.1911	-3.9187	3.26	-	
18.01	1004	367 Shell-Thick	INVSLE Combination	-0.4714	-3.6847	3.26	-	
18.01	1004	367 Shell-Thick	INVSLE Combination	0.6844	-1.2227	4.97	-	
33.48	1004	367 Shell-Thick	INVSLE Combination	0.7047	-3.4092	2.68	-	
33.48	1004	367 Shell-Thick	INVSLE Combination	-0.4857	-7.8249	1.76	-	
31.98	1004	367 Shell-Thick	INVSLE Combination	-0.9916	-7.3554	1.76	-	
31.98	1004	367 Shell-Thick	INVSLE Combination	0.4622	-2.9691	2.68	-	
13.36	1005	368 Shell-Thick	INVSLE Combination	0.7272	-0.8941	3.88	-	
13.36	1005	368 Shell-Thick	INVSLE Combination	-0.0818	-2.6502	2.56	-	
12.59	1005	368 Shell-Thick	INVSLE Combination	-0.3531	-2.4490	2.56	-	
12.59	1005	368 Shell-Thick	INVSLE Combination	0.3667	-0.7151	3.88	-	
19.50	1005	368 Shell-Thick	INVSLE Combination	0.5294	-1.5706	2.61	-	
19.50	1005	368 Shell-Thick	INVSLE Combination	-0.1710	-4.1277	1.73	-	
18.35	1005	368 Shell-Thick	INVSLE Combination	-0.5688	-3.8133	1.73	-	
18.35	1005	368 Shell-Thick	INVSLE Combination	0.2906	-1.2817	2.61	-	
18.04	1005	368 Shell-Thick	INVSLE Combination	1.1321	-1.2070	6.48	-	
18.04	1005	368 Shell-Thick	INVSLE Combination	-0.1104	-3.5777	4.27	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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17.00	1005	368 Shell-Thick	INVSLU Combination	-0.4767	-3.3061	4.27	-	
17.00	1005	368 Shell-Thick	INVSLU Combination	0.5224	-0.9654	6.48	-	
32.06	1005	368 Shell-Thick	INVSLU Combination	0.7147	-2.9552	3.52	-	
32.06	1005	368 Shell-Thick	INVSLU Combination	-0.3538	-7.1521	2.33	-	
30.12	1005	368 Shell-Thick	INVSLU Combination	-1.0102	-6.6059	2.33	-	
30.12	1005	368 Shell-Thick	INVSLU Combination	0.3923	-2.4415	3.52	-	
12.63	1006	369 Shell-Thick	INVSLE Combination	0.6950	-0.7043	4.89	-	
12.63	1006	369 Shell-Thick	INVSLE Combination	-0.0237	-2.3488	3.25	-	
11.66	1006	369 Shell-Thick	INVSLE Combination	-0.3650	-2.1334	3.25	-	
11.66	1006	369 Shell-Thick	INVSLE Combination	0.2350	-0.5125	4.89	-	
18.40	1006	369 Shell-Thick	INVSLE Combination	0.5162	-1.2715	3.30	-	
18.40	1006	369 Shell-Thick	INVSLE Combination	-0.0914	-3.6623	2.20	-	
16.96	1006	369 Shell-Thick	INVSLE Combination	-0.5894	-3.3242	2.20	-	
16.96	1006	369 Shell-Thick	INVSLE Combination	0.2095	-0.9597	3.30	-	
17.04	1006	369 Shell-Thick	INVSLU Combination	1.0608	-0.9508	8.13	-	
17.04	1006	369 Shell-Thick	INVSLU Combination	-0.0321	-3.1709	5.39	-	
15.74	1006	369 Shell-Thick	INVSLU Combination	-0.4927	-2.8801	5.39	-	
15.74	1006	369 Shell-Thick	INVSLU Combination	0.3211	-0.6919	8.13	-	
30.23	1006	369 Shell-Thick	INVSLU Combination	0.6969	-2.4327	4.46	-	
30.23	1006	369 Shell-Thick	INVSLU Combination	-0.2300	-6.3510	2.97	-	
27.82	1006	369 Shell-Thick	INVSLU Combination	-1.0486	-5.7617	2.97	-	
27.82	1006	369 Shell-Thick	INVSLU Combination	0.2828	-1.8749	4.46	-	
11.70	1007	370 Shell-Thick	INVSLE Combination	0.6122	-0.5051	6.03	-	
11.70	1007	370 Shell-Thick	INVSLE Combination	0.0241	-2.0111	4.03	-	
10.52	1007	370 Shell-Thick	INVSLE Combination	-0.3959	-1.7992	4.03	-	
10.52	1007	370 Shell-Thick	INVSLE Combination	0.0827	-0.3163	6.03	-	
17.04	1007	370 Shell-Thick	INVSLE Combination	0.4692	-0.9554	4.10	-	
17.04	1007	370 Shell-Thick	INVSLE Combination	-0.0272	-3.1407	2.75	-	
15.29	1007	370 Shell-Thick	INVSLE Combination	-0.6367	-2.8055	2.75	-	
15.29	1007	370 Shell-Thick	INVSLE Combination	0.0372	-0.6443	4.10	-	
15.80	1007	370 Shell-Thick	INVSLU Combination	0.9048	-0.6819	9.97	-	
15.80	1007	370 Shell-Thick	INVSLU Combination	0.0326	-2.7150	6.65	-	
14.21	1007	370 Shell-Thick	INVSLU Combination	-0.5345	-2.4289	6.65	-	
14.21	1007	370 Shell-Thick	INVSLU Combination	0.1117	-0.4270	9.97	-	
27.95	1007	370 Shell-Thick	INVSLU Combination	0.6335	-1.8771	5.53	-	
27.95	1007	370 Shell-Thick	INVSLU Combination	-0.1324	-5.4528	3.71	-	
25.04	1007	370 Shell-Thick	INVSLU Combination	-1.1297	-4.8655	3.71	-	
25.04	1007	370 Shell-Thick	INVSLU Combination	-0.0561	-1.3158	5.53	-	
10.58	1008	371 Shell-Thick	INVSLE Combination	0.4532	-0.3157	7.34	-	

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10.58	1008	371 Shell-Thick	INVSLE Combination	0.0503	-1.6533	4.95	-	
9.16	1008	371 Shell-Thick	INVSLE Combination	-0.4609	-1.4648	4.95	-	
9.16	1008	371 Shell-Thick	INVSLE Combination	-0.1133	-0.1475	7.34	-	
15.38	1008	371 Shell-Thick	INVSLE Combination	0.3688	-0.6507	5.03	-	
15.38	1008	371 Shell-Thick	INVSLE Combination	0.0050	-2.5876	3.41	-	
13.29	1008	371 Shell-Thick	INVSLE Combination	-0.7320	-2.2841	3.41	-	
13.29	1008	371 Shell-Thick	INVSLE Combination	-0.2578	-0.3658	5.03	-	
14.29	1008	371 Shell-Thick	INVSLE Combination	0.6258	-0.4262	12.07	-	
14.29	1008	371 Shell-Thick	INVSLE Combination	0.0679	-2.2319	8.12	-	
12.37	1008	371 Shell-Thick	INVSLE Combination	-0.6222	-1.9775	8.12	-	
12.37	1008	371 Shell-Thick	INVSLE Combination	-0.1529	-0.1992	12.07	-	
25.20	1008	371 Shell-Thick	INVSLE Combination	0.4979	-1.3364	6.79	-	
25.20	1008	371 Shell-Thick	INVSLE Combination	-0.0878	-4.5002	4.60	-	
21.74	1008	371 Shell-Thick	INVSLE Combination	-1.2870	-3.9610	4.60	-	
21.74	1008	371 Shell-Thick	INVSLE Combination	-0.5535	-0.8125	6.79	-	
9.24	1009	372 Shell-Thick	INVSLE Combination	0.1896	-0.1579	8.89	-	
9.24	1009	372 Shell-Thick	INVSLE Combination	0.0388	-1.2939	6.07	-	
7.55	1009	372 Shell-Thick	INVSLE Combination	-0.5813	-1.1527	6.07	-	
7.55	1009	372 Shell-Thick	INVSLE Combination	-0.4096	-0.0317	8.89	-	
13.41	1009	372 Shell-Thick	INVSLE Combination	0.1841	-0.3883	6.14	-	
13.41	1009	372 Shell-Thick	INVSLE Combination	-0.0152	-2.0298	4.21	-	
10.94	1009	372 Shell-Thick	INVSLE Combination	-0.9025	-1.7928	4.21	-	
10.94	1009	372 Shell-Thick	INVSLE Combination	-0.6909	-0.1610	6.14	-	
12.47	1009	372 Shell-Thick	INVSLE Combination	0.2560	-0.2132	14.52	-	
12.47	1009	372 Shell-Thick	INVSLE Combination	0.0524	-1.7468	9.88	-	
10.19	1009	372 Shell-Thick	INVSLE Combination	-0.7847	-1.5561	9.88	-	
10.19	1009	372 Shell-Thick	INVSLE Combination	-0.5529	-0.0427	14.52	-	
21.94	1009	372 Shell-Thick	INVSLE Combination	0.1727	-0.8598	8.29	-	
21.94	1009	372 Shell-Thick	INVSLE Combination	-0.1256	-3.5361	5.69	-	
17.87	1009	372 Shell-Thick	INVSLE Combination	-1.5599	-3.1031	5.69	-	
17.87	1009	372 Shell-Thick	INVSLE Combination	-1.2668	-0.4257	8.29	-	
7.64	1010	373 Shell-Thick	INVSLE Combination	-0.1012	-0.0577	10.77	-	
7.64	1010	373 Shell-Thick	INVSLE Combination	-0.0335	-0.9554	7.48	-	
5.66	1010	373 Shell-Thick	INVSLE Combination	-0.7881	-0.8786	7.48	-	
5.66	1010	373 Shell-Thick	INVSLE Combination	-0.8472	0.0122	10.77	-	
11.08	1010	373 Shell-Thick	INVSLE Combination	-0.2343	-0.2056	7.50	-	
11.08	1010	373 Shell-Thick	INVSLE Combination	-0.1189	-1.5001	5.24	-	
8.20	1010	373 Shell-Thick	INVSLE Combination	-1.1897	-1.3532	5.24	-	
8.20	1010	373 Shell-Thick	INVSLE Combination	-1.3120	-0.0557	7.50	-	

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10.31	1010	373 Shell-Thick	INVSLU Combination	-0.1366	-0.0779	17.45	-	
10.31	1010	373 Shell-Thick	INVSLU Combination	-0.0452	-1.2898	12.05	-	
7.64	1010	373 Shell-Thick	INVSLU Combination	-1.0639	-1.1861	12.05	-	
7.64	1010	373 Shell-Thick	INVSLU Combination	-1.1437	0.0164	17.45	-	
18.12	1010	373 Shell-Thick	INVSLU Combination	-0.5068	-0.5084	10.13	-	
18.12	1010	373 Shell-Thick	INVSLU Combination	-0.2938	-2.6152	7.07	-	
13.39	1010	373 Shell-Thick	INVSLU Combination	-2.0118	-2.3245	7.07	-	
13.39	1010	373 Shell-Thick	INVSLU Combination	-2.2634	-0.1945	10.13	-	
5.77	1011	374 Shell-Thick	INVSLE Combination	-0.5245	-0.0302	13.08	-	
5.77	1011	374 Shell-Thick	INVSLE Combination	-0.1919	-0.6525	9.34	-	
3.51	1011	374 Shell-Thick	INVSLE Combination	-1.1203	-0.6709	9.34	-	
3.51	1011	374 Shell-Thick	INVSLE Combination	-1.4604	-0.0448	13.08	-	
8.37	1011	374 Shell-Thick	INVSLE Combination	-0.8221	-0.1219	9.20	-	
8.37	1011	374 Shell-Thick	INVSLE Combination	-0.3325	-1.0175	6.62	-	
5.09	1011	374 Shell-Thick	INVSLE Combination	-1.6375	-1.0088	6.62	-	
5.09	1011	374 Shell-Thick	INVSLE Combination	-2.1584	-0.0941	9.20	-	
7.79	1011	374 Shell-Thick	INVSLU Combination	-0.7081	-0.0407	21.02	-	
7.79	1011	374 Shell-Thick	INVSLU Combination	-0.2591	-0.8809	14.91	-	
4.74	1011	374 Shell-Thick	INVSLU Combination	-1.5124	-0.9057	14.91	-	
4.74	1011	374 Shell-Thick	INVSLU Combination	-1.9715	-0.0605	21.02	-	
13.69	1011	374 Shell-Thick	INVSLU Combination	-1.4312	-0.3097	12.43	-	
13.69	1011	374 Shell-Thick	INVSLU Combination	-0.6203	-1.7646	8.94	-	
8.33	1011	374 Shell-Thick	INVSLU Combination	-2.6964	-1.7004	8.94	-	
8.33	1011	374 Shell-Thick	INVSLU Combination	-3.5872	-0.1949	12.43	-	
3.67	1012	375 Shell-Thick	INVSLE Combination	-1.0451	-0.1147	16.97	-	
3.67	1012	375 Shell-Thick	INVSLE Combination	-0.1646	-0.3268	12.65	-	
0.33	1012	375 Shell-Thick	INVSLE Combination	-2.0263	-0.6212	12.65	-	
0.33	1012	375 Shell-Thick	INVSLE Combination	-2.9258	-0.3693	16.97	-	
5.34	1012	375 Shell-Thick	INVSLE Combination	-1.4869	-0.1957	12.08	-	
5.34	1012	375 Shell-Thick	INVSLE Combination	-0.2312	-0.4916	9.12	-	
0.23	1012	375 Shell-Thick	INVSLE Combination	-2.8259	-0.8837	9.12	-	
0.23	1012	375 Shell-Thick	INVSLE Combination	-4.1199	-0.5055	12.08	-	
4.96	1012	375 Shell-Thick	INVSLU Combination	-1.4109	-0.1549	26.96	-	
4.96	1012	375 Shell-Thick	INVSLU Combination	-0.2223	-0.4412	19.87	-	
0.55	1012	375 Shell-Thick	INVSLU Combination	-2.7355	-0.8386	19.87	-	
0.55	1012	375 Shell-Thick	INVSLU Combination	-3.9499	-0.4985	26.96	-	
8.76	1012	375 Shell-Thick	INVSLU Combination	-2.3913	-0.3614	16.31	-	
8.76	1012	375 Shell-Thick	INVSLU Combination	-0.3674	-0.8289	12.31	-	
0.30	1012	375 Shell-Thick	INVSLU Combination	-4.4626	-1.4210	12.31	-	

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0.30	1012	375 Shell-Thick	INVSLU Combination	-6.5640	-0.7843	16.31		
0.27	1022	376 Shell-Thick	INVSLE Combination	-1.5932	-0.1351	-10.10		
0.27	1022	376 Shell-Thick	INVSLE Combination	-0.8411	-0.3517	-6.04		
3.37	1022	376 Shell-Thick	INVSLE Combination	0.1434	-0.3100	-6.04	-	
3.37	1022	376 Shell-Thick	INVSLE Combination	-0.6368	-0.0995	-10.10	-	
0.19	1022	376 Shell-Thick	INVSLE Combination	-2.2012	-0.1794	-13.97		
0.19	1022	376 Shell-Thick	INVSLE Combination	-1.1470	-0.4902	-8.25		
4.74	1022	376 Shell-Thick	INVSLE Combination	0.1033	-0.4419	-8.25	-	
4.74	1022	376 Shell-Thick	INVSLE Combination	-0.8751	-0.1522	-13.97	-	
0.44	1022	376 Shell-Thick	INVSLE Combination	-2.1509	-0.1824	-13.64		
0.44	1022	376 Shell-Thick	INVSLE Combination	-1.1355	-0.4748	-8.15		
4.55	1022	376 Shell-Thick	INVSLE Combination	0.2256	-0.4185	-8.15	-	
4.55	1022	376 Shell-Thick	INVSLE Combination	-0.8597	-0.1343	-13.64	-	
0.26	1022	376 Shell-Thick	INVSLE Combination	-3.4456	-0.2701	-21.88		
0.26	1022	376 Shell-Thick	INVSLE Combination	-1.7730	-0.7737	-12.77		
7.54	1022	376 Shell-Thick	INVSLE Combination	0.1394	-0.7120	-12.77	-	
7.54	1022	376 Shell-Thick	INVSLE Combination	-1.3630	-0.2603	-21.88	-	
3.18	1023	377 Shell-Thick	INVSLE Combination	-1.0760	-0.0107	-7.78	-	
3.18	1023	377 Shell-Thick	INVSLE Combination	-0.7184	-0.6509	-4.11	-	
6.39	1023	377 Shell-Thick	INVSLE Combination	-0.0142	-0.8584	-4.11	-	
6.39	1023	377 Shell-Thick	INVSLE Combination	-0.3797	-0.2111	-7.78	-	
4.47	1023	377 Shell-Thick	INVSLE Combination	-1.5518	-0.0280	-10.88	-	
4.47	1023	377 Shell-Thick	INVSLE Combination	-1.0184	-0.9338	-5.72	-	
8.99	1023	377 Shell-Thick	INVSLE Combination	-0.0443	-1.2488	-5.72	-	
8.99	1023	377 Shell-Thick	INVSLE Combination	-0.5704	-0.3453	-10.88	-	
4.30	1023	377 Shell-Thick	INVSLE Combination	-1.4525	-0.0144	-10.50	-	
4.30	1023	377 Shell-Thick	INVSLE Combination	-0.9698	-0.8788	-5.55	-	
8.63	1023	377 Shell-Thick	INVSLE Combination	-0.0192	-1.1589	-5.55	-	
8.63	1023	377 Shell-Thick	INVSLE Combination	-0.5126	-0.2850	-10.50	-	
7.09	1023	377 Shell-Thick	INVSLE Combination	-2.5259	-0.0635	-17.25	-	
7.09	1023	377 Shell-Thick	INVSLE Combination	-1.6326	-1.5129	-9.01	-	
14.30	1023	377 Shell-Thick	INVSLE Combination	-0.1057	-2.0478	-9.01	-	
14.30	1023	377 Shell-Thick	INVSLE Combination	-0.9606	-0.6201	-17.25	-	
6.24	1024	378 Shell-Thick	INVSLE Combination	-0.6847	-0.1244	-6.10	-	
6.24	1024	378 Shell-Thick	INVSLE Combination	-0.6381	-1.1309	-3.09	-	
8.87	1024	378 Shell-Thick	INVSLE Combination	-0.0843	-1.4772	-3.09	-	
8.87	1024	378 Shell-Thick	INVSLE Combination	-0.1569	-0.4518	-6.10	-	
8.76	1024	378 Shell-Thick	INVSLE Combination	-1.0302	-0.2196	-8.63	-	
8.76	1024	378 Shell-Thick	INVSLE Combination	-0.9227	-1.6422	-4.36	-	

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12.51	1024	378 Shell-Thick	INVSLE Combination	-0.1482	-2.1550	-4.36	-	
12.51	1024	378 Shell-Thick	INVSLE Combination	-0.2749	-0.7175	-8.63	-	
8.42	1024	378 Shell-Thick	INVSLU Combination	-0.9244	-0.1679	-8.23	-	
8.42	1024	378 Shell-Thick	INVSLU Combination	-0.8614	-1.5268	-4.17	-	
11.98	1024	378 Shell-Thick	INVSLU Combination	-0.1139	-1.9942	-4.17	-	
11.98	1024	378 Shell-Thick	INVSLU Combination	-0.2118	-0.6099	-8.23	-	
13.93	1024	378 Shell-Thick	INVSLU Combination	-1.7373	-0.4144	-13.83	-	
13.93	1024	378 Shell-Thick	INVSLU Combination	-1.5051	-2.6887	-6.95	-	
19.95	1024	378 Shell-Thick	INVSLU Combination	-0.2790	-3.5424	-6.95	-	
19.95	1024	378 Shell-Thick	INVSLU Combination	-0.5165	-1.2613	-13.83	-	
8.76	1025	379 Shell-Thick	INVSLE Combination	-0.4444	-0.3946	-4.87	-	
8.76	1025	379 Shell-Thick	INVSLE Combination	-0.6393	-1.7028	-2.41	-	
10.91	1025	379 Shell-Thick	INVSLE Combination	-0.1906	-2.1529	-2.41	-	
10.91	1025	379 Shell-Thick	INVSLE Combination	-0.0361	-0.8164	-4.87	-	
12.33	1025	379 Shell-Thick	INVSLE Combination	-0.6971	-0.6312	-6.97	-	
12.33	1025	379 Shell-Thick	INVSLE Combination	-0.9347	-2.4830	-3.43	-	
15.43	1025	379 Shell-Thick	INVSLE Combination	-0.3013	-3.1475	-3.43	-	
15.43	1025	379 Shell-Thick	INVSLE Combination	-0.1050	-1.2663	-6.97	-	
11.82	1025	379 Shell-Thick	INVSLU Combination	-0.6000	-0.5327	-6.58	-	
11.82	1025	379 Shell-Thick	INVSLU Combination	-0.8630	-2.2988	-3.25	-	
14.73	1025	379 Shell-Thick	INVSLU Combination	-0.2573	-2.9064	-3.25	-	
14.73	1025	379 Shell-Thick	INVSLU Combination	-0.0487	-1.1021	-6.58	-	
19.66	1025	379 Shell-Thick	INVSLU Combination	-1.2144	-1.1154	-11.27	-	
19.66	1025	379 Shell-Thick	INVSLU Combination	-1.5396	-4.0800	-5.54	-	
24.68	1025	379 Shell-Thick	INVSLU Combination	-0.5281	-5.1835	-5.54	-	
24.68	1025	379 Shell-Thick	INVSLU Combination	-0.2460	-2.1873	-11.27	-	
10.82	1026	380 Shell-Thick	INVSLE Combination	-0.3183	-0.7837	-3.93	-	
10.82	1026	380 Shell-Thick	INVSLE Combination	-0.6856	-2.3411	-1.91	-	
10.82	1026	380 Shell-Thick	INVSLE Combination	-0.3166	-2.8436	-1.91	-	
12.60	1026	380 Shell-Thick	INVSLE Combination	5.273E-04	-1.2517	-3.93	-	
12.60	1026	380 Shell-Thick	INVSLE Combination	-0.5171	-1.2141	-5.68	-	
15.29	1026	380 Shell-Thick	INVSLE Combination	-1.0070	-3.4233	-2.75	-	
15.29	1026	380 Shell-Thick	INVSLE Combination	-0.4818	-4.1671	-2.75	-	
17.86	1026	380 Shell-Thick	INVSLE Combination	-0.0490	-1.9182	-5.68	-	
17.86	1026	380 Shell-Thick	INVSLU Combination	-0.4297	-1.0580	-5.31	-	
14.61	1026	380 Shell-Thick	INVSLU Combination	-0.9255	-3.1605	-2.57	-	
14.61	1026	380 Shell-Thick	INVSLU Combination	-0.4274	-3.8389	-2.57	-	
17.01	1026	380 Shell-Thick	INVSLU Combination	-0.4274	-3.8389	-2.57	-	
17.01	1026	380 Shell-Thick	INVSLU Combination	7.118E-04	-1.6897	-5.31	-	
24.44	1026	380 Shell-Thick	INVSLU Combination	-0.9238	-2.0952	-9.26	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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24.44	1026	380 Shell-Thick	INVS LU Combination	-1.6649	-5.6385	-4.48	-
28.64	1026	380 Shell-Thick	INVS LU Combination	-0.8200	-6.8761	-4.48	-
28.64	1026	380 Shell-Thick	INVS LU Combination	-0.1504	-3.2826	-9.26	-
12.53	1027	381 Shell-Thick	INVS LE Combination	-0.2657	-1.2364	-3.18	-
12.53	1027	381 Shell-Thick	INVS LE Combination	-0.7569	-3.0002	-1.52	-
13.99	1027	381 Shell-Thick	INVS LE Combination	-0.4522	-3.5138	-1.52	-
13.99	1027	381 Shell-Thick	INVS LE Combination	-0.0161	-1.7122	-3.18	-
17.76	1027	381 Shell-Thick	INVS LE Combination	-0.4372	-1.8910	-4.64	-
17.76	1027	381 Shell-Thick	INVS LE Combination	-1.1144	-4.3984	-2.21	-
19.88	1027	381 Shell-Thick	INVS LE Combination	-0.6777	-5.1621	-2.21	-
19.88	1027	381 Shell-Thick	INVS LE Combination	-0.0668	-2.6091	-4.64	-
16.92	1027	381 Shell-Thick	INVS LU Combination	-0.3587	-1.6691	-4.30	-
16.92	1027	381 Shell-Thick	INVS LU Combination	-1.0218	-4.0503	-2.05	-
18.88	1027	381 Shell-Thick	INVS LU Combination	-0.6104	-4.7436	-2.05	-
18.88	1027	381 Shell-Thick	INVS LU Combination	-0.0217	-2.3115	-4.30	-
28.45	1027	381 Shell-Thick	INVS LU Combination	-0.7884	-3.2310	-7.62	-
28.45	1027	381 Shell-Thick	INVS LU Combination	-1.8464	-7.2606	-3.63	-
31.94	1027	381 Shell-Thick	INVS LU Combination	-1.1393	-8.5363	-3.63	-
31.94	1027	381 Shell-Thick	INVS LU Combination	-0.1706	-4.4449	-7.62	-
13.93	1028	382 Shell-Thick	INVS LE Combination	-0.2577	-1.7084	-2.57	-
13.93	1028	382 Shell-Thick	INVS LE Combination	-0.8370	-3.6429	-1.21	-
15.12	1028	382 Shell-Thick	INVS LE Combination	-0.5865	-4.1339	-1.21	-
15.12	1028	382 Shell-Thick	INVS LE Combination	-0.0631	-2.1613	-2.57	-
19.80	1028	382 Shell-Thick	INVS LE Combination	-0.4205	-2.5989	-3.77	-
19.80	1028	382 Shell-Thick	INVS LE Combination	-1.2340	-5.3544	-1.78	-
21.54	1028	382 Shell-Thick	INVS LE Combination	-0.8728	-6.0880	-1.78	-
21.54	1028	382 Shell-Thick	INVS LE Combination	-0.1289	-3.2848	-3.77	-
18.81	1028	382 Shell-Thick	INVS LU Combination	-0.3478	-2.3064	-3.47	-
18.81	1028	382 Shell-Thick	INVS LU Combination	-1.1299	-4.9179	-1.64	-
20.41	1028	382 Shell-Thick	INVS LU Combination	-0.7918	-5.5807	-1.64	-
20.41	1028	382 Shell-Thick	INVS LU Combination	-0.0852	-2.9178	-3.47	-
31.80	1028	382 Shell-Thick	INVS LU Combination	-0.7539	-4.4215	-6.22	-
31.80	1028	382 Shell-Thick	INVS LU Combination	-2.0467	-8.8578	-2.93	-
34.68	1028	382 Shell-Thick	INVS LU Combination	-1.4588	-10.0878	-2.93	-
34.68	1028	382 Shell-Thick	INVS LU Combination	-0.2636	-5.5846	-6.22	-
15.08	1029	383 Shell-Thick	INVS LE Combination	-0.2741	-2.1645	-2.04	-
15.08	1029	383 Shell-Thick	INVS LE Combination	-0.9153	-4.2387	-0.95	-
16.04	1029	383 Shell-Thick	INVS LE Combination	-0.7124	-4.6825	-0.95	-
16.04	1029	383 Shell-Thick	INVS LE Combination	-0.1242	-2.5722	-2.04	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 335 di 416
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21.48	1029	383 Shell-Thick	INVSLE Combination	-0.4390	-3.2853	-3.01	-
21.48	1029	383 Shell-Thick	INVSLE Combination	-1.3510	-6.2452	-1.41	-
22.89	1029	383 Shell-Thick	INVSLE Combination	-1.0570	-6.9113	-1.41	-
22.89	1029	383 Shell-Thick	INVSLE Combination	-0.2123	-3.9055	-3.01	-
20.36	1029	383 Shell-Thick	INVSLE Combination	-0.3701	-2.9220	-2.76	-
20.36	1029	383 Shell-Thick	INVSLE Combination	-1.2356	-5.7222	-1.29	-
21.65	1029	383 Shell-Thick	INVSLE Combination	-0.9618	-6.3213	-1.29	-
21.65	1029	383 Shell-Thick	INVSLE Combination	-0.1677	-3.4725	-2.76	-
34.57	1029	383 Shell-Thick	INVSLE Combination	-0.7765	-5.5796	-5.00	-
34.57	1029	383 Shell-Thick	INVSLE Combination	-2.2430	-10.3523	-2.34	-
36.91	1029	383 Shell-Thick	INVSLE Combination	-1.7623	-11.4735	-2.34	-
36.91	1029	383 Shell-Thick	INVSLE Combination	-0.3926	-6.6346	-5.00	-
16.01	1030	384 Shell-Thick	INVSLE Combination	-0.3007	-2.5789	-1.58	-
16.01	1030	384 Shell-Thick	INVSLE Combination	-0.9849	-4.7656	-0.73	-
16.75	1030	384 Shell-Thick	INVSLE Combination	-0.8250	-5.1439	-0.73	-
16.75	1030	384 Shell-Thick	INVSLE Combination	-0.1878	-2.9253	-1.58	-
22.84	1030	384 Shell-Thick	INVSLE Combination	-0.4728	-3.9118	-2.35	-
22.84	1030	384 Shell-Thick	INVSLE Combination	-1.4552	-7.0367	-1.09	-
23.95	1030	384 Shell-Thick	INVSLE Combination	-1.2225	-7.6067	-1.09	-
23.95	1030	384 Shell-Thick	INVSLE Combination	-0.3008	-4.4405	-2.35	-
21.61	1030	384 Shell-Thick	INVSLE Combination	-0.4060	-3.4815	-2.14	-
21.61	1030	384 Shell-Thick	INVSLE Combination	-1.3296	-6.4336	-0.99	-
22.62	1030	384 Shell-Thick	INVSLE Combination	-1.1137	-6.9442	-0.99	-
22.62	1030	384 Shell-Thick	INVSLE Combination	-0.2535	-3.9492	-2.14	-
36.83	1030	384 Shell-Thick	INVSLE Combination	-0.8250	-6.6402	-3.92	-
36.83	1030	384 Shell-Thick	INVSLE Combination	-2.4181	-11.6856	-1.82	-
38.67	1030	384 Shell-Thick	INVSLE Combination	-2.0361	-12.6480	-1.82	-
38.67	1030	384 Shell-Thick	INVSLE Combination	-0.5320	-7.5420	-3.92	-
16.73	1031	385 Shell-Thick	INVSLE Combination	-0.3284	-2.9331	-1.17	-
16.73	1031	385 Shell-Thick	INVSLE Combination	-1.0404	-5.2073	-0.54	-
17.29	1031	385 Shell-Thick	INVSLE Combination	-0.9203	-5.5073	-0.54	-
17.29	1031	385 Shell-Thick	INVSLE Combination	-0.2468	-3.2069	-1.17	-
23.91	1031	385 Shell-Thick	INVSLE Combination	-0.5090	-4.4491	-1.75	-
23.91	1031	385 Shell-Thick	INVSLE Combination	-1.5386	-7.7030	-0.80	-
24.74	1031	385 Shell-Thick	INVSLE Combination	-1.3633	-8.1565	-0.80	-
24.74	1031	385 Shell-Thick	INVSLE Combination	-0.3840	-4.8684	-1.75	-
22.59	1031	385 Shell-Thick	INVSLE Combination	-0.4433	-3.9597	-1.58	-
22.59	1031	385 Shell-Thick	INVSLE Combination	-1.4045	-7.0299	-0.73	-
23.34	1031	385 Shell-Thick	INVSLE Combination	-1.2425	-7.4348	-0.73	-

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23.34	1031	385 Shell-Thick	INVSLE Combination	-0.3332	-4.3294	-1.58	-
38.61	1031	385 Shell-Thick	INVSLE Combination	-0.8786	-7.5525	-2.92	-
38.61	1031	385 Shell-Thick	INVSLE Combination	-2.5585	-12.8114	-1.35	-
39.99	1031	385 Shell-Thick	INVSLE Combination	-2.2699	-13.5792	-1.35	-
39.99	1031	385 Shell-Thick	INVSLE Combination	-0.6648	-8.2694	-2.92	-
17.28	1032	386 Shell-Thick	INVSLE Combination	-0.3500	-3.2140	-0.80	-
17.28	1032	386 Shell-Thick	INVSLE Combination	-1.0790	-5.5526	-0.36	-
17.65	1032	386 Shell-Thick	INVSLE Combination	-0.9966	-5.7654	-0.36	-
17.65	1032	386 Shell-Thick	INVSLE Combination	-0.2959	-3.4076	-0.80	-
24.72	1032	386 Shell-Thick	INVSLE Combination	-0.5372	-4.8768	-1.19	-
24.72	1032	386 Shell-Thick	INVSLE Combination	-1.5970	-8.2255	-0.54	-
25.28	1032	386 Shell-Thick	INVSLE Combination	-1.4762	-8.5480	-0.54	-
25.28	1032	386 Shell-Thick	INVSLE Combination	-0.4539	-5.1738	-1.19	-
23.32	1032	386 Shell-Thick	INVSLE Combination	-0.4725	-4.3389	-1.07	-
23.32	1032	386 Shell-Thick	INVSLE Combination	-1.4566	-7.4960	-0.49	-
23.83	1032	386 Shell-Thick	INVSLE Combination	-1.3454	-7.7833	-0.49	-
23.83	1032	386 Shell-Thick	INVSLE Combination	-0.3995	-4.6002	-1.07	-
39.95	1032	386 Shell-Thick	INVSLE Combination	-0.9202	-8.2805	-1.99	-
39.95	1032	386 Shell-Thick	INVSLE Combination	-2.6572	-13.6967	-0.91	-
40.89	1032	386 Shell-Thick	INVSLE Combination	-2.4580	-14.2438	-0.91	-
40.89	1032	386 Shell-Thick	INVSLE Combination	-0.7773	-8.7893	-1.99	-
17.65	1033	387 Shell-Thick	INVSLE Combination	-0.3619	-3.4127	-0.44	-
17.65	1033	387 Shell-Thick	INVSLE Combination	-1.0980	-5.7937	-0.20	-
17.85	1033	387 Shell-Thick	INVSLE Combination	-1.0519	-5.9137	-0.20	-
17.85	1033	387 Shell-Thick	INVSLE Combination	-0.3325	-3.5213	-0.44	-
25.27	1033	387 Shell-Thick	INVSLE Combination	-0.5520	-5.1802	-0.66	-
25.27	1033	387 Shell-Thick	INVSLE Combination	-1.6259	-8.5912	-0.30	-
25.58	1033	387 Shell-Thick	INVSLE Combination	-1.5582	-8.7734	-0.30	-
25.58	1033	387 Shell-Thick	INVSLE Combination	-0.5069	-5.3471	-0.66	-
23.82	1033	387 Shell-Thick	INVSLE Combination	-0.4885	-4.6072	-0.59	-
23.82	1033	387 Shell-Thick	INVSLE Combination	-1.4823	-7.8215	-0.27	-
24.10	1033	387 Shell-Thick	INVSLE Combination	-1.4200	-7.9835	-0.27	-
24.10	1033	387 Shell-Thick	INVSLE Combination	-0.4489	-4.7538	-0.59	-
40.87	1033	387 Shell-Thick	INVSLE Combination	-0.9413	-8.7981	-1.10	-
40.87	1033	387 Shell-Thick	INVSLE Combination	-2.7065	-14.3174	-0.50	-
41.40	1033	387 Shell-Thick	INVSLE Combination	-2.5945	-14.6270	-0.50	-
41.40	1033	387 Shell-Thick	INVSLE Combination	-0.8638	-9.0843	-1.10	-
17.85	1034	388 Shell-Thick	INVSLE Combination	-0.3606	-3.5238	-9.596E-02	-
17.85	1034	388 Shell-Thick	INVSLE Combination	-1.0965	-5.9257	-4.351E-02	-

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17.90	1034	388 Shell-Thick	INVSLE Combination	-1.0859	-5.9500	-4.351E-02	-	
17.90	1034	388 Shell-Thick	INVSLE Combination	-0.3547	-3.5449	-9.596E-02	-	
25.58	1034	388 Shell-Thick	INVSLE Combination	-0.5485	-5.3503	-0.14	-	
25.58	1034	388 Shell-Thick	INVSLE Combination	-1.6243	-8.7917	-6.485E-02	-	
25.65	1034	388 Shell-Thick	INVSLE Combination	-1.6086	-8.8286	-6.485E-02	-	
25.65	1034	388 Shell-Thick	INVSLE Combination	-0.5396	-5.3827	-0.14	-	
24.10	1034	388 Shell-Thick	INVSLE Combination	-0.4868	-4.7572	-0.13	-	
24.10	1034	388 Shell-Thick	INVSLE Combination	-1.4802	-7.9997	-5.874E-02	-	
24.16	1034	388 Shell-Thick	INVSLE Combination	-1.4660	-8.0325	-5.874E-02	-	
24.16	1034	388 Shell-Thick	INVSLE Combination	-0.4789	-4.7857	-0.13	-	
41.39	1034	388 Shell-Thick	INVSLE Combination	-0.9330	-9.0890	-0.24	-	
41.39	1034	388 Shell-Thick	INVSLE Combination	-2.7046	-14.6582	-0.11	-	
41.50	1034	388 Shell-Thick	INVSLE Combination	-2.6785	-14.7211	-0.11	-	
41.50	1034	388 Shell-Thick	INVSLE Combination	-0.9180	-9.1444	-0.24	-	
17.90	1035	389 Shell-Thick	INVSLE Combination	-0.3454	-3.5445	0.37	-	
17.90	1035	389 Shell-Thick	INVSLE Combination	-1.0733	-5.9460	0.17	-	
17.78	1035	389 Shell-Thick	INVSLE Combination	-1.0981	-5.8739	0.17	-	
17.78	1035	389 Shell-Thick	INVSLE Combination	-0.3626	-3.4776	0.37	-	
25.65	1035	389 Shell-Thick	INVSLE Combination	-0.5255	-5.3823	0.25	-	
25.65	1035	389 Shell-Thick	INVSLE Combination	-1.5900	-8.8224	0.11	-	
25.47	1035	389 Shell-Thick	INVSLE Combination	-1.6263	-8.7131	0.11	-	
25.47	1035	389 Shell-Thick	INVSLE Combination	-0.5525	-5.2794	0.25	-	
24.16	1035	389 Shell-Thick	INVSLE Combination	-0.4663	-4.7851	0.62	-	
24.16	1035	389 Shell-Thick	INVSLE Combination	-1.4489	-8.0271	0.28	-	
24.01	1035	389 Shell-Thick	INVSLE Combination	-1.4825	-7.9298	0.28	-	
24.01	1035	389 Shell-Thick	INVSLE Combination	-0.4896	-4.6947	0.62	-	
41.51	1035	389 Shell-Thick	INVSLE Combination	-0.8942	-9.1443	0.33	-	
41.51	1035	389 Shell-Thick	INVSLE Combination	-2.6478	-14.7103	0.15	-	
41.22	1035	389 Shell-Thick	INVSLE Combination	-2.7074	-14.5249	0.15	-	
41.22	1035	389 Shell-Thick	INVSLE Combination	-0.9411	-8.9676	0.33	-	
17.79	1036	390 Shell-Thick	INVSLE Combination	-0.3154	-3.4743	0.89	-	
17.79	1036	390 Shell-Thick	INVSLE Combination	-1.0288	-5.8539	0.41	-	
17.51	1036	390 Shell-Thick	INVSLE Combination	-1.0894	-5.6872	0.41	-	
17.51	1036	390 Shell-Thick	INVSLE Combination	-0.3566	-3.3208	0.89	-	
25.48	1036	390 Shell-Thick	INVSLE Combination	-0.4818	-5.2756	0.59	-	
25.48	1036	390 Shell-Thick	INVSLE Combination	-1.5241	-8.6823	0.27	-	
25.06	1036	390 Shell-Thick	INVSLE Combination	-1.6127	-8.4297	0.27	-	
25.06	1036	390 Shell-Thick	INVSLE Combination	-0.5457	-5.0398	0.59	-	
24.01	1036	390 Shell-Thick	INVSLE Combination	-0.4258	-4.6903	1.49	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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24.01	1036	390 Shell-Thick	INVSLU Combination	-1.3888	-7.9027	0.68	-	
23.63	1036	390 Shell-Thick	INVSLU Combination	-1.4707	-7.6777	0.68	-	
23.63	1036	390 Shell-Thick	INVSLU Combination	-0.4814	-4.4831	1.49	-	
41.23	1036	390 Shell-Thick	INVSLU Combination	-0.8223	-8.9628	0.80	-	
41.23	1036	390 Shell-Thick	INVSLU Combination	-2.5381	-14.4720	0.37	-	
40.53	1036	390 Shell-Thick	INVSLU Combination	-2.6839	-14.0435	0.37	-	
40.53	1036	390 Shell-Thick	INVSLU Combination	-0.9327	-8.5585	0.80	-	
17.52	1037	391 Shell-Thick	INVSLE Combination	-0.2721	-3.3152	1.43	-	
17.52	1037	391 Shell-Thick	INVSLE Combination	-0.9629	-5.6506	0.66	-	
17.07	1037	391 Shell-Thick	INVSLE Combination	-1.0602	-5.3934	0.66	-	
17.07	1037	391 Shell-Thick	INVSLE Combination	-0.3391	-3.0787	1.43	-	
25.08	1037	391 Shell-Thick	INVSLE Combination	-0.4197	-5.0334	0.96	-	
25.08	1037	391 Shell-Thick	INVSLE Combination	-1.4264	-8.3736	0.44	-	
24.41	1037	391 Shell-Thick	INVSLE Combination	-1.5685	-7.9846	0.44	-	
24.41	1037	391 Shell-Thick	INVSLE Combination	-0.5231	-4.6707	0.96	-	
23.65	1037	391 Shell-Thick	INVSLU Combination	-0.3673	-4.4756	2.39	-	
23.65	1037	391 Shell-Thick	INVSLU Combination	-1.2999	-7.6283	1.10	-	
23.04	1037	391 Shell-Thick	INVSLU Combination	-1.4313	-7.2811	1.10	-	
23.04	1037	391 Shell-Thick	INVSLU Combination	-0.4578	-4.1562	2.39	-	
40.56	1037	391 Shell-Thick	INVSLU Combination	-0.7217	-8.5505	1.29	-	
40.56	1037	391 Shell-Thick	INVSLU Combination	-2.3752	-13.9476	0.59	-	
39.43	1037	391 Shell-Thick	INVSLU Combination	-2.6089	-13.2887	0.59	-	
39.43	1037	391 Shell-Thick	INVSLU Combination	-0.8998	-7.9295	1.29	-	
17.08	1038	392 Shell-Thick	INVSLE Combination	-0.2171	-3.0717	2.00	-	
17.08	1038	392 Shell-Thick	INVSLE Combination	-0.8771	-5.3394	0.93	-	
16.45	1038	392 Shell-Thick	INVSLE Combination	-1.0128	-4.9989	0.93	-	
16.45	1038	392 Shell-Thick	INVSLE Combination	-0.3132	-2.7582	2.00	-	
24.43	1038	392 Shell-Thick	INVSLE Combination	-0.3417	-4.6631	1.35	-	
24.43	1038	392 Shell-Thick	INVSLE Combination	-1.2995	-7.9022	0.62	-	
23.49	1038	392 Shell-Thick	INVSLE Combination	-1.4971	-7.3887	0.62	-	
23.49	1038	392 Shell-Thick	INVSLE Combination	-0.4891	-4.1837	1.35	-	
23.06	1038	392 Shell-Thick	INVSLU Combination	-0.2931	-4.1468	3.35	-	
23.06	1038	392 Shell-Thick	INVSLU Combination	-1.1841	-7.2082	1.55	-	
22.20	1038	392 Shell-Thick	INVSLU Combination	-1.3673	-6.7486	1.55	-	
22.20	1038	392 Shell-Thick	INVSLU Combination	-0.4228	-3.7235	3.35	-	
39.48	1038	392 Shell-Thick	INVSLU Combination	-0.5966	-7.9205	1.82	-	
39.48	1038	392 Shell-Thick	INVSLU Combination	-2.1642	-13.1481	0.84	-	
37.91	1038	392 Shell-Thick	INVSLU Combination	-2.4885	-12.2803	0.84	-	
37.91	1038	392 Shell-Thick	INVSLU Combination	-0.8491	-7.1017	1.82	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 339 di 416
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16.47	1039	393 Shell-Thick	INVSLE Combination	-0.1547	-2.7513	2.63	-	
16.47	1039	393 Shell-Thick	INVSLE Combination	-0.7729	-4.9261	1.22	-	
15.64	1039	393 Shell-Thick	INVSLE Combination	-0.9494	-4.5130	1.22	-	
15.64	1039	393 Shell-Thick	INVSLE Combination	-0.2845	-2.3700	2.63	-	
23.53	1039	393 Shell-Thick	INVSLE Combination	-0.2543	-4.1770	1.78	-	
23.53	1039	393 Shell-Thick	INVSLE Combination	-1.1460	-7.2782	0.83	-	
22.30	1039	393 Shell-Thick	INVSLE Combination	-1.4022	-6.6572	0.83	-	
22.30	1039	393 Shell-Thick	INVSLE Combination	-0.4519	-3.5959	1.78	-	
22.24	1039	393 Shell-Thick	INVSLE Combination	-0.2089	-3.7143	4.38	-	
22.24	1039	393 Shell-Thick	INVSLE Combination	-1.0434	-6.6503	2.04	-	
21.11	1039	393 Shell-Thick	INVSLE Combination	-1.2817	-6.0926	2.04	-	
21.11	1039	393 Shell-Thick	INVSLE Combination	-0.3841	-3.1995	4.38	-	
37.98	1039	393 Shell-Thick	INVSLE Combination	-0.4580	-7.0953	2.40	-	
37.98	1039	393 Shell-Thick	INVSLE Combination	-1.9096	-12.0927	1.12	-	
35.93	1039	393 Shell-Thick	INVSLE Combination	-2.3289	-11.0462	1.12	-	
35.93	1039	393 Shell-Thick	INVSLE Combination	-0.7946	-6.1053	2.40	-	
15.67	1040	394 Shell-Thick	INVSLE Combination	-0.0907	-2.3653	3.33	-	
15.67	1040	394 Shell-Thick	INVSLE Combination	-0.6534	-4.4197	1.56	-	
14.62	1040	394 Shell-Thick	INVSLE Combination	-0.8745	-3.9493	1.56	-	
14.62	1040	394 Shell-Thick	INVSLE Combination	-0.2606	-1.9298	3.33	-	
22.35	1040	394 Shell-Thick	INVSLE Combination	-0.1660	-3.5932	2.26	-	
22.35	1040	394 Shell-Thick	INVSLE Combination	-0.9707	-6.5165	1.06	-	
20.81	1040	394 Shell-Thick	INVSLE Combination	-1.2901	-5.8125	1.06	-	
20.81	1040	394 Shell-Thick	INVSLE Combination	-0.4226	-2.9321	2.26	-	
21.16	1040	394 Shell-Thick	INVSLE Combination	-0.1224	-3.1932	5.52	-	
21.16	1040	394 Shell-Thick	INVSLE Combination	-0.8821	-5.9666	2.59	-	
19.74	1040	394 Shell-Thick	INVSLE Combination	-1.1806	-5.3316	2.59	-	
19.74	1040	394 Shell-Thick	INVSLE Combination	-0.3518	-2.6052	5.52	-	
36.03	1040	394 Shell-Thick	INVSLE Combination	-0.3201	-6.1065	3.05	-	
36.03	1040	394 Shell-Thick	INVSLE Combination	-1.6201	-10.8084	1.43	-	
33.47	1040	394 Shell-Thick	INVSLE Combination	-2.1408	-9.6263	1.43	-	
33.47	1040	394 Shell-Thick	INVSLE Combination	-0.7541	-4.9839	3.05	-	
14.67	1041	395 Shell-Thick	INVSLE Combination	-0.0344	-1.9302	4.13	-	
14.67	1041	395 Shell-Thick	INVSLE Combination	-0.5228	-3.8333	1.96	-	
13.37	1041	395 Shell-Thick	INVSLE Combination	-0.7937	-3.3266	1.96	-	
13.37	1041	395 Shell-Thick	INVSLE Combination	-0.2532	-1.4592	4.13	-	
20.88	1041	395 Shell-Thick	INVSLE Combination	-0.0900	-2.9375	2.82	-	
20.88	1041	395 Shell-Thick	INVSLE Combination	-0.7804	-5.6387	1.34	-	
18.98	1041	395 Shell-Thick	INVSLE Combination	-1.1697	-4.8840	1.34	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 340 di 416
18.98	1041	395 Shell-Thick	INVSLE Combination	-0.4173	-2.2254	2.82	-	
19.80	1041	395 Shell-Thick	INVSLE Combination	-0.0464	-2.6058	6.80	-	
19.80	1041	395 Shell-Thick	INVSLE Combination	-0.7057	-5.1749	3.23	-	
18.05	1041	395 Shell-Thick	INVSLE Combination	-1.0715	-4.4910	3.23	-	
18.05	1041	395 Shell-Thick	INVSLE Combination	-0.3419	-1.9699	6.80	-	
33.59	1041	395 Shell-Thick	INVSLE Combination	-0.2038	-4.9993	3.81	-	
33.59	1041	395 Shell-Thick	INVSLE Combination	-1.3077	-9.3342	1.81	-	
30.46	1041	395 Shell-Thick	INVSLE Combination	-1.9394	-8.0717	1.81	-	
30.46	1041	395 Shell-Thick	INVSLE Combination	-0.7532	-3.7939	3.81	-	
13.43	1042	396 Shell-Thick	INVSLE Combination	6.204E-04	-1.4687	5.06	-	
13.43	1042	396 Shell-Thick	INVSLE Combination	-0.3870	-3.1851	2.43	-	
11.85	1042	396 Shell-Thick	INVSLE Combination	-0.7156	-2.6714	2.43	-	
11.85	1042	396 Shell-Thick	INVSLE Combination	-0.2790	-0.9886	5.06	-	
19.07	1042	396 Shell-Thick	INVSLE Combination	-0.0460	-2.2444	3.49	-	
19.07	1042	396 Shell-Thick	INVSLE Combination	-0.5836	-4.6735	1.68	-	
16.77	1042	396 Shell-Thick	INVSLE Combination	-1.0528	-3.9122	1.68	-	
16.77	1042	396 Shell-Thick	INVSLE Combination	-0.4598	-1.5215	3.49	-	
18.13	1042	396 Shell-Thick	INVSLE Combination	8.375E-04	-1.9827	8.29	-	
18.13	1042	396 Shell-Thick	INVSLE Combination	-0.5225	-4.2998	3.98	-	
15.99	1042	396 Shell-Thick	INVSLE Combination	-0.9661	-3.6063	3.98	-	
15.99	1042	396 Shell-Thick	INVSLE Combination	-0.3767	-1.3347	8.29	-	
30.62	1042	396 Shell-Thick	INVSLE Combination	-0.1416	-3.8323	4.71	-	
30.62	1042	396 Shell-Thick	INVSLE Combination	-0.9858	-7.7203	2.26	-	
26.85	1042	396 Shell-Thick	INVSLE Combination	-1.7430	-6.4521	2.26	-	
26.85	1042	396 Shell-Thick	INVSLE Combination	-0.8300	-2.6123	4.71	-	
11.93	1043	397 Shell-Thick	INVSLE Combination	-0.0051	-1.0124	6.20	-	
11.93	1043	397 Shell-Thick	INVSLE Combination	-0.2557	-2.5008	3.02	-	
10.00	1043	397 Shell-Thick	INVSLE Combination	-0.6537	-2.0169	3.02	-	
10.00	1043	397 Shell-Thick	INVSLE Combination	-0.3620	-0.5573	6.20	-	
16.89	1043	397 Shell-Thick	INVSLE Combination	-0.0594	-1.5614	4.31	-	
16.89	1043	397 Shell-Thick	INVSLE Combination	-0.3950	-3.6607	2.10	-	
14.11	1043	397 Shell-Thick	INVSLE Combination	-0.9593	-2.9462	2.10	-	
14.11	1043	397 Shell-Thick	INVSLE Combination	-0.5813	-0.8768	4.31	-	
16.10	1043	397 Shell-Thick	INVSLE Combination	-0.0069	-1.3668	10.07	-	
16.10	1043	397 Shell-Thick	INVSLE Combination	-0.3451	-3.3761	4.90	-	
13.50	1043	397 Shell-Thick	INVSLE Combination	-0.8825	-2.7228	4.90	-	
13.50	1043	397 Shell-Thick	INVSLE Combination	-0.4887	-0.7523	10.07	-	
27.06	1043	397 Shell-Thick	INVSLE Combination	-0.1706	-2.6850	5.81	-	
27.06	1043	397 Shell-Thick	INVSLE Combination	-0.6804	-6.0350	2.84	-	

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22.53	1043	397 Shell-Thick	INVSLU Combination	-1.5848	-4.8486	2.84	-	
22.53	1043	397 Shell-Thick	INVSLU Combination	-1.0302	-1.5310	5.81	-	
10.10	1044	398 Shell-Thick	INVSLE Combination	-0.0806	-0.6022	7.62	-	
10.10	1044	398 Shell-Thick	INVSLE Combination	-0.1383	-1.8126	3.78	-	
7.75	1044	398 Shell-Thick	INVSLE Combination	-0.6243	-1.4076	3.78	-	
7.75	1044	398 Shell-Thick	INVSLE Combination	-0.5381	-0.2176	7.62	-	
14.27	1044	398 Shell-Thick	INVSLE Combination	-0.1700	-0.9466	5.35	-	
14.27	1044	398 Shell-Thick	INVSLE Combination	-0.2264	-2.6476	2.66	-	
10.91	1044	398 Shell-Thick	INVSLE Combination	-0.9094	-2.0501	2.66	-	
10.91	1044	398 Shell-Thick	INVSLE Combination	-0.8305	-0.3661	5.35	-	
13.64	1044	398 Shell-Thick	INVSLU Combination	-0.1089	-0.8130	12.28	-	
13.64	1044	398 Shell-Thick	INVSLU Combination	-0.1867	-2.4471	6.08	-	
10.46	1044	398 Shell-Thick	INVSLU Combination	-0.8428	-1.9003	6.08	-	
10.46	1044	398 Shell-Thick	INVSLU Combination	-0.7265	-0.2938	12.28	-	
22.79	1044	398 Shell-Thick	INVSLU Combination	-0.3529	-1.6517	7.22	-	
22.79	1044	398 Shell-Thick	INVSLU Combination	-0.4067	-4.3568	3.60	-	
17.37	1044	398 Shell-Thick	INVSLU Combination	-1.4930	-3.3653	3.60	-	
17.37	1044	398 Shell-Thick	INVSLU Combination	-1.4291	-0.6701	7.22	-	
7.89	1045	399 Shell-Thick	INVSLE Combination	-0.2571	-0.2934	9.51	-	
7.89	1045	399 Shell-Thick	INVSLE Combination	-0.0607	-1.1630	4.81	-	
4.98	1045	399 Shell-Thick	INVSLE Combination	-0.6657	-0.8674	4.81	-	
4.98	1045	399 Shell-Thick	INVSLE Combination	-0.8505	-0.0072	9.51	-	
11.11	1045	399 Shell-Thick	INVSLE Combination	-0.4115	-0.4781	6.75	-	
11.11	1045	399 Shell-Thick	INVSLE Combination	-0.1152	-1.6955	3.43	-	
6.99	1045	399 Shell-Thick	INVSLE Combination	-0.9573	-1.2534	3.43	-	
6.99	1045	399 Shell-Thick	INVSLE Combination	-1.2563	-0.0365	6.75	-	
10.65	1045	399 Shell-Thick	INVSLU Combination	-0.3471	-0.3960	15.17	-	
10.65	1045	399 Shell-Thick	INVSLU Combination	-0.0819	-1.5700	7.64	-	
6.72	1045	399 Shell-Thick	INVSLU Combination	-0.8987	-1.1710	7.64	-	
6.72	1045	399 Shell-Thick	INVSLU Combination	-1.1482	-0.0097	15.17	-	
17.71	1045	399 Shell-Thick	INVSLU Combination	-0.7275	-0.8563	9.11	-	
17.71	1045	399 Shell-Thick	INVSLU Combination	-0.2269	-2.7855	4.63	-	
11.12	1045	399 Shell-Thick	INVSLU Combination	-1.5541	-2.0434	4.63	-	
11.12	1045	399 Shell-Thick	INVSLU Combination	-2.0868	-0.0965	9.11	-	
5.21	1046	400 Shell-Thick	INVSLE Combination	-0.3710	-0.1312	13.11	-	
5.21	1046	400 Shell-Thick	INVSLE Combination	0.3811	-0.4589	7.26	-	
0.35	1046	400 Shell-Thick	INVSLE Combination	-1.0202	-0.4397	7.26	-	
0.35	1046	400 Shell-Thick	INVSLE Combination	-1.6765	-0.0997	13.11	-	
7.33	1046	400 Shell-Thick	INVSLE Combination	-0.5206	-0.2130	9.45	-	

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7.33	1046	400 Shell-Thick	INVSLE Combination	0.2773	-0.6621	5.30	-	
0.24	1046	400 Shell-Thick	INVSLE Combination	-1.4067	-0.6187	5.30		
0.24	1046	400 Shell-Thick	INVSLE Combination	-2.3297	-0.1286	9.45		
7.03	1046	400 Shell-Thick	INVSLE Combination	0.2773	-0.6621	5.30		
7.03	1046	400 Shell-Thick	INVSLE Combination	-1.4067	-0.6187	5.30		
0.57	1046	400 Shell-Thick	INVSLE Combination	-2.3297	-0.1286	9.45		
0.57	1046	400 Shell-Thick	INVSLE Combination	-0.5009	-0.1771	20.61	-	
11.68	1046	400 Shell-Thick	INVSLE Combination	0.5936	-0.6195	11.29	-	
11.68	1046	400 Shell-Thick	INVSLE Combination	-1.3773	-0.5935	11.29		
0.33	1046	400 Shell-Thick	INVSLE Combination	-2.2633	-0.1346	20.61		
0.33	1046	400 Shell-Thick	INVSLE Combination	-0.8267	-0.3804	12.76	-	
0.28	1046	400 Shell-Thick	INVSLE Combination	0.3744	-1.0780	7.15	-	
0.28	1046	400 Shell-Thick	INVSLE Combination	-2.1976	-0.9851	7.15		
5.46	1046	400 Shell-Thick	INVSLE Combination	-3.6668	-0.1878	12.76		
5.46	1056	401 Shell-Thick	INVSLE Combination	-0.4749	0.1422	-6.29		
0.20	1056	401 Shell-Thick	INVSLE Combination	-0.2477	-0.2465	0.24		
0.20	1056	401 Shell-Thick	INVSLE Combination	0.1552	-0.4077	0.24	-	
7.45	1056	401 Shell-Thick	INVSLE Combination	-0.1201	-0.0496	-6.29	-	
7.45	1056	401 Shell-Thick	INVSLE Combination	-0.6483	0.1020	-8.58		
0.44	1056	401 Shell-Thick	INVSLE Combination	-0.3339	-0.3387	0.18		
0.44	1056	401 Shell-Thick	INVSLE Combination	0.1168	-0.5548	0.18	-	
7.37	1056	401 Shell-Thick	INVSLE Combination	-0.1548	-0.0725	-8.58	-	
7.37	1056	401 Shell-Thick	INVSLE Combination	-0.6412	0.2246	-8.49		
0.28	1056	401 Shell-Thick	INVSLE Combination	-0.3343	-0.3328	0.37		
0.28	1056	401 Shell-Thick	INVSLE Combination	0.2338	-0.5504	0.37	-	
0.28	1056	401 Shell-Thick	INVSLE Combination	-0.1621	-0.0670	-8.49	-	
11.51	1056	401 Shell-Thick	INVSLE Combination	-1.0032	0.1377	-13.29		
11.51	1056	401 Shell-Thick	INVSLE Combination	-0.5104	-0.5273	0.24		
5.18	1056	401 Shell-Thick	INVSLE Combination	0.1577	-0.8557	0.24	-	
5.18	1056	401 Shell-Thick	INVSLE Combination	-0.2259	-0.1193	-13.29	-	
9.09	1057	402 Shell-Thick	INVSLE Combination	-0.3500	0.2406	-4.30	-	
9.09	1057	402 Shell-Thick	INVSLE Combination	-0.3416	-0.7715	0.23	-	
9.09	1057	402 Shell-Thick	INVSLE Combination	-0.0834	-1.3532	0.23	-	
9.09	1057	402 Shell-Thick	INVSLE Combination	-0.1220	-0.3827	-4.30	-	
7.05	1057	402 Shell-Thick	INVSLE Combination	-0.5059	0.1766	-5.97	-	
7.05	1057	402 Shell-Thick	INVSLE Combination	-0.4676	-1.0627	0.17	-	
12.48	1057	402 Shell-Thick	INVSLE Combination	-0.1174	-1.8626	0.17	-	
12.48	1057	402 Shell-Thick	INVSLE Combination	-0.1801	-0.5399	-5.97	-	
6.99	1057	402 Shell-Thick	INVSLE Combination	-0.4724	0.3718	-5.80	-	
6.99	1057	402 Shell-Thick	INVSLE Combination	-0.4611	-1.0416	0.36	-	
12.27	1057	402 Shell-Thick	INVSLE Combination	-0.1126	-1.8268	0.36	-	
12.27	1057	402 Shell-Thick	INVSLE Combination	-0.1647	-0.5166	-5.80	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 343 di 416
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10.88	1057	402 Shell-Thick	INVSLU Combination	-0.8252	0.2384	-9.40	-	
10.88	1057	402 Shell-Thick	INVSLU Combination	-0.7257	-1.6586	0.23	-	
19.42	1057	402 Shell-Thick	INVSLU Combination	-0.1871	-2.9053	0.23	-	
19.42	1057	402 Shell-Thick	INVSLU Combination	-0.2990	-0.8618	-9.40	-	
8.91	1058	403 Shell-Thick	INVSLE Combination	-0.3054	-0.2392	-3.23	-	
8.91	1058	403 Shell-Thick	INVSLE Combination	-0.5104	-1.6188	0.24	-	
11.88	1058	403 Shell-Thick	INVSLE Combination	-0.3044	-2.4553	0.24	-	
11.88	1058	403 Shell-Thick	INVSLE Combination	-0.1511	-1.0394	-3.23	-	
12.21	1058	403 Shell-Thick	INVSLE Combination	-0.4494	-0.3350	-4.55	-	
12.21	1058	403 Shell-Thick	INVSLE Combination	-0.7065	-2.2392	0.17	-	
16.40	1058	403 Shell-Thick	INVSLE Combination	-0.4245	-3.4156	0.17	-	
16.40	1058	403 Shell-Thick	INVSLE Combination	-0.2234	-1.4715	-4.55	-	
12.02	1058	403 Shell-Thick	INVSLU Combination	-0.4123	-0.3229	-4.36	-	
12.02	1058	403 Shell-Thick	INVSLU Combination	-0.6890	-2.1854	0.37	-	
16.04	1058	403 Shell-Thick	INVSLU Combination	-0.4110	-3.3146	0.37	-	
16.04	1058	403 Shell-Thick	INVSLU Combination	-0.2040	-1.4032	-4.36	-	
18.99	1058	403 Shell-Thick	INVSLU Combination	-0.7440	-0.5312	-7.25	-	
18.99	1058	403 Shell-Thick	INVSLU Combination	-1.1079	-3.5091	0.23	-	
25.66	1058	403 Shell-Thick	INVSLU Combination	-0.6702	-5.3812	0.23	-	
25.66	1058	403 Shell-Thick	INVSLU Combination	-0.3713	-2.3560	-7.25	-	
11.75	1059	404 Shell-Thick	INVSLE Combination	-0.3621	-0.9518	-2.52	-	
11.75	1059	404 Shell-Thick	INVSLE Combination	-0.7141	-2.6670	0.23	-	
14.11	1059	404 Shell-Thick	INVSLE Combination	-0.5416	-3.6114	0.23	-	
14.11	1059	404 Shell-Thick	INVSLE Combination	-0.2569	-1.8497	-2.52	-	
16.21	1059	404 Shell-Thick	INVSLE Combination	-0.5319	-1.3432	-3.60	-	
16.21	1059	404 Shell-Thick	INVSLE Combination	-0.9981	-3.7204	0.17	-	
19.56	1059	404 Shell-Thick	INVSLE Combination	-0.7599	-5.0697	0.17	-	
19.56	1059	404 Shell-Thick	INVSLE Combination	-0.3740	-2.6368	-3.60	-	
15.86	1059	404 Shell-Thick	INVSLU Combination	-0.4888	-1.2849	-3.41	-	
15.86	1059	404 Shell-Thick	INVSLU Combination	-0.9641	-3.6005	0.37	-	
19.04	1059	404 Shell-Thick	INVSLU Combination	-0.7311	-4.8754	0.37	-	
19.04	1059	404 Shell-Thick	INVSLU Combination	-0.3468	-2.4971	-3.41	-	
25.34	1059	404 Shell-Thick	INVSLU Combination	-0.8796	-2.1443	-5.79	-	
25.34	1059	404 Shell-Thick	INVSLU Combination	-1.5794	-5.8765	0.22	-	
30.73	1059	404 Shell-Thick	INVSLU Combination	-1.2069	-8.0548	0.22	-	
30.73	1059	404 Shell-Thick	INVSLU Combination	-0.6138	-4.2480	-5.79	-	
14.01	1060	405 Shell-Thick	INVSLE Combination	-0.4682	-1.7975	-2.01	-	
14.01	1060	405 Shell-Thick	INVSLE Combination	-0.9262	-3.7828	0.22	-	
15.91	1060	405 Shell-Thick	INVSLE Combination	-0.7788	-4.7424	0.22	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 344 di 416
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15.91	1060	405 Shell-Thick	INVSLE Combination	-0.3975	-2.7046	-2.01	-
19.42	1060	405 Shell-Thick	INVSLE Combination	-0.6838	-2.5580	-2.89	-
19.42	1060	405 Shell-Thick	INVSLE Combination	-1.3053	-5.3196	0.16	-
22.14	1060	405 Shell-Thick	INVSLE Combination	-1.1002	-6.7082	0.16	-
22.14	1060	405 Shell-Thick	INVSLE Combination	-0.5747	-3.8808	-2.89	-
18.92	1060	405 Shell-Thick	INVSLE Combination	-0.6321	-2.4267	-2.71	-
18.92	1060	405 Shell-Thick	INVSLE Combination	-1.2504	-5.1067	0.36	-
21.47	1060	405 Shell-Thick	INVSLE Combination	-1.0513	-6.4022	0.36	-
21.47	1060	405 Shell-Thick	INVSLE Combination	-0.5366	-3.6512	-2.71	-
30.49	1060	405 Shell-Thick	INVSLE Combination	-1.1253	-4.1147	-4.69	-
30.49	1060	405 Shell-Thick	INVSLE Combination	-2.0813	-8.4654	0.21	-
34.91	1060	405 Shell-Thick	INVSLE Combination	-1.7582	-10.7322	0.21	-
34.91	1060	405 Shell-Thick	INVSLE Combination	-0.9374	-6.2884	-4.69	-
15.84	1061	406 Shell-Thick	INVSLE Combination	-0.5975	-2.6759	-1.61	-
15.84	1061	406 Shell-Thick	INVSLE Combination	-1.1311	-4.8816	0.20	-
17.37	1061	406 Shell-Thick	INVSLE Combination	-1.0045	-5.7964	0.20	-
17.37	1061	406 Shell-Thick	INVSLE Combination	-0.5512	-3.5361	-1.61	-
22.04	1061	406 Shell-Thick	INVSLE Combination	-0.8708	-3.8356	-2.34	-
22.04	1061	406 Shell-Thick	INVSLE Combination	-1.6051	-6.9137	0.14	-
24.27	1061	406 Shell-Thick	INVSLE Combination	-1.4279	-8.2514	0.14	-
24.27	1061	406 Shell-Thick	INVSLE Combination	-0.7969	-5.1029	-2.34	-
21.38	1061	406 Shell-Thick	INVSLE Combination	-0.8066	-3.6125	-2.17	-
21.38	1061	406 Shell-Thick	INVSLE Combination	-1.5269	-6.5901	0.33	-
23.46	1061	406 Shell-Thick	INVSLE Combination	-1.3561	-7.8252	0.33	-
23.46	1061	406 Shell-Thick	INVSLE Combination	-0.7441	-4.7738	-2.17	-
34.74	1061	406 Shell-Thick	INVSLE Combination	-1.4304	-6.2094	-3.82	-
34.74	1061	406 Shell-Thick	INVSLE Combination	-2.5754	-11.0733	0.19	-
38.37	1061	406 Shell-Thick	INVSLE Combination	-2.2946	-13.2767	0.19	-
38.37	1061	406 Shell-Thick	INVSLE Combination	-1.2998	-8.3100	-3.82	-
17.33	1062	407 Shell-Thick	INVSLE Combination	-0.7310	-3.5225	-1.29	-
17.33	1062	407 Shell-Thick	INVSLE Combination	-1.3188	-5.9089	0.18	-
18.57	1062	407 Shell-Thick	INVSLE Combination	-1.2111	-6.7408	0.18	-
18.57	1062	407 Shell-Thick	INVSLE Combination	-0.7018	-4.3011	-1.29	-
24.19	1062	407 Shell-Thick	INVSLE Combination	-1.0652	-5.0797	-1.88	-
24.19	1062	407 Shell-Thick	INVSLE Combination	-1.8824	-8.4192	0.13	-
26.00	1062	407 Shell-Thick	INVSLE Combination	-1.7307	-9.6464	0.13	-
26.00	1062	407 Shell-Thick	INVSLE Combination	-1.0165	-6.2368	-1.88	-
23.39	1062	407 Shell-Thick	INVSLE Combination	-0.9869	-4.7554	-1.74	-
23.39	1062	407 Shell-Thick	INVSLE Combination	-1.7804	-7.9770	0.30	-

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 345 di 416
25.06	1062	407 Shell-Thick	INVSLU Combination	-1.6350	-9.1001	0.30	-	
25.06	1062	407 Shell-Thick	INVSLU Combination	-0.9475	-5.8065	-1.74	-	
38.24	1062	407 Shell-Thick	INVSLU Combination	-1.7491	-8.2673	-3.10	-	
38.24	1062	407 Shell-Thick	INVSLU Combination	-3.0360	-13.5577	0.17	-	
41.22	1062	407 Shell-Thick	INVSLU Combination	-2.7943	-15.5939	0.17	-	
41.22	1062	407 Shell-Thick	INVSLU Combination	-1.6605	-10.1991	-3.10	-	
18.53	1063	408 Shell-Thick	INVSLE Combination	-0.8573	-4.2969	-1.02	-	
18.53	1063	408 Shell-Thick	INVSLE Combination	-1.4835	-6.8306	0.16	-	
19.52	1063	408 Shell-Thick	INVSLE Combination	-1.3936	-7.5548	0.16	-	
19.52	1063	408 Shell-Thick	INVSLE Combination	-0.8399	-4.9719	-1.02	-	
25.95	1063	408 Shell-Thick	INVSLE Combination	-1.2503	-6.2278	-1.50	-	
25.95	1063	408 Shell-Thick	INVSLE Combination	-2.1276	-9.7816	0.11	-	
27.40	1063	408 Shell-Thick	INVSLE Combination	-2.0002	-10.8576	0.11	-	
27.40	1063	408 Shell-Thick	INVSLE Combination	-1.2196	-7.2382	-1.50	-	
25.02	1063	408 Shell-Thick	INVSLU Combination	-1.1574	-5.8008	-1.38	-	
25.02	1063	408 Shell-Thick	INVSLU Combination	-2.0028	-9.2213	0.26	-	
26.35	1063	408 Shell-Thick	INVSLU Combination	-1.8813	-10.1990	0.26	-	
26.35	1063	408 Shell-Thick	INVSLU Combination	-1.1339	-6.7121	-1.38	-	
41.13	1063	408 Shell-Thick	INVSLU Combination	-2.0548	-10.1801	-2.48	-	
41.13	1063	408 Shell-Thick	INVSLU Combination	-3.4460	-15.8221	0.15	-	
43.53	1063	408 Shell-Thick	INVSLU Combination	-3.2421	-17.6183	0.15	-	
43.53	1063	408 Shell-Thick	INVSLU Combination	-1.9968	-11.8772	-2.48	-	
19.50	1064	409 Shell-Thick	INVSLE Combination	-0.9692	-4.9731	-0.79	-	
19.50	1064	409 Shell-Thick	INVSLE Combination	-1.6214	-7.6251	0.13	-	
20.27	1064	409 Shell-Thick	INVSLE Combination	-1.5487	-8.2257	0.13	-	
20.27	1064	409 Shell-Thick	INVSLE Combination	-0.9596	-5.5310	-0.79	-	
27.36	1064	409 Shell-Thick	INVSLE Combination	-1.4152	-7.2376	-1.16	-	
27.36	1064	409 Shell-Thick	INVSLE Combination	-2.3343	-10.9643	8.917E-02	-	
28.50	1064	409 Shell-Thick	INVSLE Combination	-2.2309	-11.8619	8.917E-02	-	
28.50	1064	409 Shell-Thick	INVSLE Combination	-1.3968	-8.0777	-1.16	-	
26.32	1064	409 Shell-Thick	INVSLU Combination	-1.3084	-6.7137	-1.06	-	
26.32	1064	409 Shell-Thick	INVSLU Combination	-2.1889	-10.2939	0.22	-	
27.36	1064	409 Shell-Thick	INVSLU Combination	-2.0908	-11.1047	0.22	-	
27.36	1064	409 Shell-Thick	INVSLU Combination	-1.2954	-7.4668	-1.06	-	
43.46	1064	409 Shell-Thick	INVSLU Combination	-2.3283	-11.8728	-1.94	-	
43.46	1064	409 Shell-Thick	INVSLU Combination	-3.7935	-17.7994	0.12	-	
45.35	1064	409 Shell-Thick	INVSLU Combination	-3.6274	-19.3051	0.12	-	
45.35	1064	409 Shell-Thick	INVSLU Combination	-2.2918	-13.2906	-1.94	-	
20.25	1065	410 Shell-Thick	INVSLE Combination	-1.0614	-5.5347	-0.58	-	

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20.25	1065	410 Shell-Thick	INVSLE Combination	-1.7303	-8.2787	0.10	-	
20.82	1065	410 Shell-Thick	INVSLE Combination	-1.6745	-8.7455	0.10	-	
20.82	1065	410 Shell-Thick	INVSLE Combination	-1.0567	-5.9669	-0.58	-	
28.47	1065	410 Shell-Thick	INVSLE Combination	-1.5517	-8.0812	-0.86	-	
28.47	1065	410 Shell-Thick	INVSLE Combination	-2.4985	-11.9429	6.902E-02	-	
29.32	1065	410 Shell-Thick	INVSLE Combination	-2.4189	-12.6438	6.902E-02	-	
29.32	1065	410 Shell-Thick	INVSLE Combination	-1.5415	-8.7351	-0.86	-	
27.34	1065	410 Shell-Thick	INVSLE Combination	-1.4329	-7.4718	-0.79	-	
27.34	1065	410 Shell-Thick	INVSLE Combination	-2.3359	-11.1763	0.17	-	
28.11	1065	410 Shell-Thick	INVSLE Combination	-2.2606	-11.8065	0.17	-	
28.11	1065	410 Shell-Thick	INVSLE Combination	-1.4266	-8.0553	-0.79	-	
45.30	1065	410 Shell-Thick	INVSLE Combination	-2.5554	-13.2938	-1.44	-	
45.30	1065	410 Shell-Thick	INVSLE Combination	-4.0709	-19.4434	9.317E-02	-	
46.71	1065	410 Shell-Thick	INVSLE Combination	-3.9425	-20.6235	9.317E-02	-	
46.71	1065	410 Shell-Thick	INVSLE Combination	-2.5339	-14.4015	-1.44	-	
20.81	1066	411 Shell-Thick	INVSLE Combination	-1.1313	-5.9711	-0.39	-	
20.81	1066	411 Shell-Thick	INVSLE Combination	-1.8087	-8.7831	7.128E-02	-	
21.20	1066	411 Shell-Thick	INVSLE Combination	-1.7698	-9.1097	7.128E-02	-	
21.20	1066	411 Shell-Thick	INVSLE Combination	-1.1294	-6.2727	-0.39	-	
29.30	1066	411 Shell-Thick	INVSLE Combination	-1.6555	-8.7400	-0.59	-	
29.30	1066	411 Shell-Thick	INVSLE Combination	-2.6174	-12.7015	4.827E-02	-	
29.88	1066	411 Shell-Thick	INVSLE Combination	-2.5617	-13.1936	4.827E-02	-	
29.88	1066	411 Shell-Thick	INVSLE Combination	-1.6505	-9.1978	-0.59	-	
28.10	1066	411 Shell-Thick	INVSLE Combination	-1.5273	-8.0610	-0.53	-	
28.10	1066	411 Shell-Thick	INVSLE Combination	-2.4418	-11.8571	0.12	-	
28.62	1066	411 Shell-Thick	INVSLE Combination	-2.3893	-12.2981	0.12	-	
28.62	1066	411 Shell-Thick	INVSLE Combination	-1.5247	-8.4681	-0.53	-	
46.68	1066	411 Shell-Thick	INVSLE Combination	-2.7286	-14.4077	-0.98	-	
46.68	1066	411 Shell-Thick	INVSLE Combination	-4.2726	-20.7223	6.516E-02	-	
47.64	1066	411 Shell-Thick	INVSLE Combination	-4.1825	-21.5532	6.516E-02	-	
47.64	1066	411 Shell-Thick	INVSLE Combination	-2.7172	-15.1853	-0.98	-	
21.19	1067	412 Shell-Thick	INVSLE Combination	-1.1764	-6.2760	-0.22	-	
21.19	1067	412 Shell-Thick	INVSLE Combination	-1.8559	-9.1330	4.025E-02	-	
21.41	1067	412 Shell-Thick	INVSLE Combination	-1.8338	-9.3157	4.025E-02	-	
21.41	1067	412 Shell-Thick	INVSLE Combination	-1.1760	-6.4440	-0.22	-	
29.87	1067	412 Shell-Thick	INVSLE Combination	-1.7224	-9.2019	-0.32	-	
29.87	1067	412 Shell-Thick	INVSLE Combination	-2.6894	-13.2294	2.717E-02	-	
30.19	1067	412 Shell-Thick	INVSLE Combination	-2.6576	-13.5053	2.717E-02	-	
30.19	1067	412 Shell-Thick	INVSLE Combination	-1.7206	-9.4574	-0.32	-	



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 347 di 416
28.61	1067	412 Shell-Thick	INVS LU	Combination	-1.5881	-8.4726	-0.29	-
28.61	1067	412 Shell-Thick	INVS LU	Combination	-2.5055	-12.3295	6.703E-02	-
28.90	1067	412 Shell-Thick	INVS LU	Combination	-2.4757	-12.5762	6.703E-02	-
28.90	1067	412 Shell-Thick	INVS LU	Combination	-1.5876	-8.6995	-0.29	-
47.62	1067	412 Shell-Thick	INVS LU	Combination	-2.8400	-15.1910	-0.54	-
47.62	1067	412 Shell-Thick	INVS LU	Combination	-4.3954	-21.6147	3.668E-02	-
48.16	1067	412 Shell-Thick	INVS LU	Combination	-4.3438	-22.0813	3.668E-02	-
48.16	1067	412 Shell-Thick	INVS LU	Combination	-2.8354	-15.6257	-0.54	-
21.41	1068	413 Shell-Thick	INVS LE	Combination	-1.1959	-6.4457	-4.792E-02	-
21.41	1068	413 Shell-Thick	INVS LE	Combination	-1.8714	-9.3255	8.817E-03	-
21.45	1068	413 Shell-Thick	INVS LE	Combination	-1.8661	-9.3623	8.817E-03	-
21.45	1068	413 Shell-Thick	INVS LE	Combination	-1.1963	-6.4788	-4.792E-02	-
30.19	1068	413 Shell-Thick	INVS LE	Combination	-1.7511	-9.4597	-7.133E-02	-
30.19	1068	413 Shell-Thick	INVS LE	Combination	-2.7136	-13.5204	5.892E-03	-
30.26	1068	413 Shell-Thick	INVS LE	Combination	-2.7058	-13.5762	5.892E-03	-
30.26	1068	413 Shell-Thick	INVS LE	Combination	-1.7516	-9.5099	-7.133E-02	-
28.90	1068	413 Shell-Thick	INVS LU	Combination	-1.6145	-8.7017	-6.469E-02	-
28.90	1068	413 Shell-Thick	INVS LU	Combination	-2.5264	-12.5894	1.480E-02	-
28.96	1068	413 Shell-Thick	INVS LU	Combination	-2.5193	-12.6391	1.480E-02	-
28.96	1068	413 Shell-Thick	INVS LU	Combination	-1.6150	-8.7463	-6.469E-02	-
48.15	1068	413 Shell-Thick	INVS LU	Combination	-2.8877	-15.6290	-0.12	-
48.15	1068	413 Shell-Thick	INVS LU	Combination	-4.4373	-22.1071	7.955E-03	-
48.27	1068	413 Shell-Thick	INVS LU	Combination	-4.4244	-22.2017	7.955E-03	-
48.27	1068	413 Shell-Thick	INVS LU	Combination	-2.8883	-15.7145	-0.12	-
21.46	1069	414 Shell-Thick	INVS LE	Combination	-1.1887	-6.4784	0.18	-
21.46	1069	414 Shell-Thick	INVS LE	Combination	-1.8551	-9.3590	-1.541E-02	-
21.34	1069	414 Shell-Thick	INVS LE	Combination	-1.8666	-9.2496	-1.541E-02	-
21.34	1069	414 Shell-Thick	INVS LE	Combination	-1.1897	-6.3762	0.18	-
30.26	1069	414 Shell-Thick	INVS LE	Combination	-1.7398	-9.5096	0.12	-
30.26	1069	414 Shell-Thick	INVS LE	Combination	-2.6896	-13.5708	-2.268E-02	-
30.08	1069	414 Shell-Thick	INVS LE	Combination	-2.7057	-13.4058	-2.268E-02	-
30.08	1069	414 Shell-Thick	INVS LE	Combination	-1.7422	-9.3539	0.12	-
28.97	1069	414 Shell-Thick	INVS LU	Combination	-1.6048	-8.7459	0.30	-
28.97	1069	414 Shell-Thick	INVS LU	Combination	-2.5044	-12.6346	-2.081E-02	-
28.80	1069	414 Shell-Thick	INVS LU	Combination	-2.5199	-12.4869	-2.081E-02	-
28.80	1069	414 Shell-Thick	INVS LU	Combination	-1.6060	-8.6079	0.30	-
48.27	1069	414 Shell-Thick	INVS LU	Combination	-2.8677	-15.7144	0.16	-
48.27	1069	414 Shell-Thick	INVS LU	Combination	-4.3977	-22.1923	-3.755E-02	-
47.98	1069	414 Shell-Thick	INVS LU	Combination	-4.4234	-21.9133	-3.755E-02	-

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47.98	1069	414 Shell-Thick	INVS LU Combination	-2.8732	-15.4491	0.16	-	
21.34	1070	415 Shell-Thick	INVS LE Combination	-1.1551	-6.3740	0.44	-	
21.34	1070	415 Shell-Thick	INVS LE Combination	-1.8070	-9.2330	-3.660E-02	-	
21.05	1070	415 Shell-Thick	INVS LE Combination	-1.8353	-8.9785	-3.660E-02	-	
21.05	1070	415 Shell-Thick	INVS LE Combination	-1.1571	-6.1373	0.44	-	
30.09	1070	415 Shell-Thick	INVS LE Combination	-1.6890	-9.3514	0.29	-	
30.09	1070	415 Shell-Thick	INVS LE Combination	-2.6176	-13.3800	-5.393E-02	-	
29.66	1070	415 Shell-Thick	INVS LE Combination	-2.6577	-12.9963	-5.393E-02	-	
29.66	1070	415 Shell-Thick	INVS LE Combination	-1.6940	-8.9915	0.29	-	
28.81	1070	415 Shell-Thick	INVS LU Combination	-1.5594	-8.6049	0.73	-	
28.81	1070	415 Shell-Thick	INVS LU Combination	-2.4395	-12.4645	-4.941E-02	-	
28.42	1070	415 Shell-Thick	INVS LU Combination	-2.4776	-12.1209	-4.941E-02	-	
28.42	1070	415 Shell-Thick	INVS LU Combination	-1.5620	-8.2853	0.73	-	
47.99	1070	415 Shell-Thick	INVS LU Combination	-2.7817	-15.4461	0.40	-	
47.99	1070	415 Shell-Thick	INVS LU Combination	-4.2768	-21.8687	-8.939E-02	-	
47.27	1070	415 Shell-Thick	INVS LU Combination	-4.3411	-21.2205	-8.939E-02	-	
47.27	1070	415 Shell-Thick	INVS LU Combination	-2.7931	-14.8338	0.40	-	
21.06	1071	416 Shell-Thick	INVS LE Combination	-1.0950	-6.1337	0.70	-	
21.06	1071	416 Shell-Thick	INVS LE Combination	-1.7274	-8.9480	-5.752E-02	-	
20.59	1071	416 Shell-Thick	INVS LE Combination	-1.7724	-8.5511	-5.752E-02	-	
20.59	1071	416 Shell-Thick	INVS LE Combination	-1.0990	-5.7645	0.70	-	
29.67	1071	416 Shell-Thick	INVS LE Combination	-1.5986	-8.9875	0.47	-	
29.67	1071	416 Shell-Thick	INVS LE Combination	-2.4982	-12.9493	-8.458E-02	-	
28.98	1071	416 Shell-Thick	INVS LE Combination	-2.5621	-12.3525	-8.458E-02	-	
28.98	1071	416 Shell-Thick	INVS LE Combination	-1.6077	-8.4278	0.47	-	
28.43	1071	416 Shell-Thick	INVS LU Combination	-1.4782	-8.2805	1.18	-	
28.43	1071	416 Shell-Thick	INVS LU Combination	-2.3320	-12.0799	-7.765E-02	-	
27.80	1071	416 Shell-Thick	INVS LU Combination	-2.3928	-11.5440	-7.765E-02	-	
27.80	1071	416 Shell-Thick	INVS LU Combination	-1.4836	-7.7821	1.18	-	
47.30	1071	416 Shell-Thick	INVS LU Combination	-2.6294	-14.8291	0.64	-	
47.30	1071	416 Shell-Thick	INVS LU Combination	-4.0761	-21.1395	-0.14	-	
46.15	1071	416 Shell-Thick	INVS LU Combination	-4.1785	-20.1336	-0.14	-	
46.15	1071	416 Shell-Thick	INVS LU Combination	-2.6491	-13.8794	0.64	-	
20.61	1072	417 Shell-Thick	INVS LE Combination	-1.0096	-5.7607	0.99	-	
20.61	1072	417 Shell-Thick	INVS LE Combination	-1.6169	-8.5060	-7.795E-02	-	
19.95	1072	417 Shell-Thick	INVS LE Combination	-1.6786	-7.9715	-7.795E-02	-	
19.95	1072	417 Shell-Thick	INVS LE Combination	-1.0173	-5.2628	0.99	-	
29.00	1072	417 Shell-Thick	INVS LE Combination	-1.4710	-8.4240	0.67	-	
29.00	1072	417 Shell-Thick	INVS LE Combination	-2.3328	-12.2830	-0.11	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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28.03	1072	417 Shell-Thick	INVSLE Combination	-2.4203	-11.4826	-0.11	-	
28.03	1072	417 Shell-Thick	INVSLE Combination	-1.4867	-7.6723	0.67	-	
27.82	1072	417 Shell-Thick	INVSLE Combination	-1.3630	-7.7769	1.65	-	
27.82	1072	417 Shell-Thick	INVSLE Combination	-2.1828	-11.4831	-0.11	-	
26.94	1072	417 Shell-Thick	INVSLE Combination	-2.2661	-10.7616	-0.11	-	
26.94	1072	417 Shell-Thick	INVSLE Combination	-1.3734	-7.1048	1.65	-	
26.94	1072	417 Shell-Thick	INVSLE Combination	-2.4155	-13.8757	0.90	-	
46.19	1072	417 Shell-Thick	INVSLE Combination	-3.7983	-20.0145	-0.19	-	
46.19	1072	417 Shell-Thick	INVSLE Combination	-3.9385	-18.6696	-0.19	-	
44.58	1072	417 Shell-Thick	INVSLE Combination	-2.4475	-12.6043	0.90	-	
44.58	1072	417 Shell-Thick	INVSLE Combination	-0.9003	-5.2604	1.30	-	
19.97	1073	418 Shell-Thick	INVSLE Combination	-1.4763	-7.9102	-9.765E-02	-	
19.97	1073	418 Shell-Thick	INVSLE Combination	-1.5550	-7.2463	-9.765E-02	-	
19.11	1073	418 Shell-Thick	INVSLE Combination	-0.9143	-4.6403	1.30	-	
19.11	1073	418 Shell-Thick	INVSLE Combination	-1.3088	-7.6711	0.88	-	
28.07	1073	418 Shell-Thick	INVSLE Combination	-2.1233	-11.3888	-0.14	-	
28.07	1073	418 Shell-Thick	INVSLE Combination	-2.2344	-10.3997	-0.14	-	
26.80	1073	418 Shell-Thick	INVSLE Combination	-1.3345	-6.7399	0.88	-	
26.80	1073	418 Shell-Thick	INVSLE Combination	-1.2155	-7.1015	2.17	-	
26.96	1073	418 Shell-Thick	INVSLE Combination	-1.9930	-10.6787	-0.13	-	
26.96	1073	418 Shell-Thick	INVSLE Combination	-2.0992	-9.7825	-0.13	-	
25.80	1073	418 Shell-Thick	INVSLE Combination	-1.2343	-6.2644	2.17	-	
25.80	1073	418 Shell-Thick	INVSLE Combination	-2.1448	-12.6057	1.19	-	
44.63	1073	418 Shell-Thick	INVSLE Combination	-3.4476	-18.5095	-0.23	-	
44.63	1073	418 Shell-Thick	INVSLE Combination	-3.6252	-16.8546	-0.23	-	
42.53	1073	418 Shell-Thick	INVSLE Combination	-2.1947	-11.0376	1.19	-	
42.53	1073	418 Shell-Thick	INVSLE Combination	-0.7704	-4.6416	1.66	-	
19.14	1074	419 Shell-Thick	INVSLE Combination	-1.3074	-7.1667	-0.12	-	
19.14	1074	419 Shell-Thick	INVSLE Combination	-1.4032	-6.3860	-0.12	-	
18.05	1074	419 Shell-Thick	INVSLE Combination	-0.7940	-3.9100	1.66	-	
18.05	1074	419 Shell-Thick	INVSLE Combination	-1.1170	-6.7447	1.13	-	
26.85	1074	419 Shell-Thick	INVSLE Combination	-1.8728	-10.2790	-0.17	-	
26.85	1074	419 Shell-Thick	INVSLE Combination	-2.0077	-9.1235	-0.17	-	
25.25	1074	419 Shell-Thick	INVSLE Combination	-1.1576	-5.6532	1.13	-	
25.25	1074	419 Shell-Thick	INVSLE Combination	-1.0401	-6.2662	2.74	-	
25.84	1074	419 Shell-Thick	INVSLE Combination	-1.7649	-9.6750	-0.16	-	
25.84	1074	419 Shell-Thick	INVSLE Combination	-1.8943	-8.6211	-0.16	-	
24.37	1074	419 Shell-Thick	INVSLE Combination	-1.0719	-5.2785	2.74	-	
24.37	1074	419 Shell-Thick	INVSLE Combination	-1.8263	-11.0497	1.53	-	
42.62	1074	419 Shell-Thick	INVSLE Combination					

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 350 di 416
42.62	1074	419 Shell-Thick	INVSLU Combination	-3.0303	-16.6499	-0.28	-	
39.98	1074	419 Shell-Thick	INVSLU Combination	-3.2450	-14.7269	-0.28	-	
39.98	1074	419 Shell-Thick	INVSLU Combination	-1.9019	-9.2215	1.53	-	
18.09	1075	420 Shell-Thick	INVSLE Combination	-0.6245	-3.9184	2.07	-	
18.09	1075	420 Shell-Thick	INVSLE Combination	-1.1125	-6.2855	-0.13	-	
16.73	1075	420 Shell-Thick	INVSLE Combination	-1.2262	-5.4077	-0.13	-	
16.73	1075	420 Shell-Thick	INVSLE Combination	-0.6622	-3.0923	2.07	-	
25.31	1075	420 Shell-Thick	INVSLE Combination	-0.9034	-5.6690	1.42	-	
25.31	1075	420 Shell-Thick	INVSLE Combination	-1.5860	-8.9725	-0.19	-	
23.33	1075	420 Shell-Thick	INVSLE Combination	-1.7452	-7.6836	-0.19	-	
23.33	1075	420 Shell-Thick	INVSLE Combination	-0.9652	-4.4464	1.42	-	
24.42	1075	420 Shell-Thick	INVSLU Combination	-0.8430	-5.2898	3.40	-	
24.42	1075	420 Shell-Thick	INVSLU Combination	-1.5018	-8.4854	-0.18	-	
22.59	1075	420 Shell-Thick	INVSLU Combination	-1.6553	-7.3004	-0.18	-	
22.59	1075	420 Shell-Thick	INVSLU Combination	-0.8939	-4.1746	3.40	-	
40.09	1075	420 Shell-Thick	INVSLU Combination	-1.4744	-9.2523	1.92	-	
40.09	1075	420 Shell-Thick	INVSLU Combination	-2.5554	-14.4727	-0.31	-	
36.84	1075	420 Shell-Thick	INVSLU Combination	-2.8076	-12.3423	-0.31	-	
36.84	1075	420 Shell-Thick	INVSLU Combination	-1.5856	-7.2182	1.92	-	
16.79	1076	421 Shell-Thick	INVSLE Combination	-0.4699	-3.1125	2.56	-	
16.79	1076	421 Shell-Thick	INVSLE Combination	-0.8957	-5.2829	-0.15	-	
15.11	1076	421 Shell-Thick	INVSLE Combination	-1.0286	-4.3385	-0.15	-	
15.11	1076	421 Shell-Thick	INVSLE Combination	-0.5279	-2.2193	2.56	-	
23.42	1076	421 Shell-Thick	INVSLE Combination	-0.6788	-4.4796	1.77	-	
23.42	1076	421 Shell-Thick	INVSLE Combination	-1.2698	-7.4980	-0.21	-	
21.00	1076	421 Shell-Thick	INVSLE Combination	-1.4547	-6.1245	-0.21	-	
21.00	1076	421 Shell-Thick	INVSLE Combination	-0.7703	-3.1701	1.77	-	
22.67	1076	421 Shell-Thick	INVSLU Combination	-0.6344	-4.2019	4.18	-	
22.67	1076	421 Shell-Thick	INVSLU Combination	-1.2092	-7.1320	-0.20	-	
20.40	1076	421 Shell-Thick	INVSLU Combination	-1.3886	-5.8570	-0.20	-	
20.40	1076	421 Shell-Thick	INVSLU Combination	-0.7126	-2.9960	4.18	-	
37.00	1076	421 Shell-Thick	INVSLU Combination	-1.1066	-7.2780	2.39	-	
37.00	1076	421 Shell-Thick	INVSLU Combination	-2.0355	-12.0322	-0.34	-	
33.04	1076	421 Shell-Thick	INVSLU Combination	-2.3270	-9.7804	-0.34	-	
33.04	1076	421 Shell-Thick	INVSLU Combination	-1.2667	-5.1166	2.39	-	
15.19	1077	422 Shell-Thick	INVSLE Combination	-0.3196	-2.2581	3.17	-	
15.19	1077	422 Shell-Thick	INVSLE Combination	-0.6633	-4.1850	-0.16	-	
13.12	1077	422 Shell-Thick	INVSLE Combination	-0.8180	-3.2215	-0.16	-	
13.12	1077	422 Shell-Thick	INVSLE Combination	-0.4061	-1.3416	3.17	-	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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21.12	1077	422 Shell-Thick	INVSLE Combination	-0.4635	-3.2304	2.21	-	
21.12	1077	422 Shell-Thick	INVSLE Combination	-0.9343	-5.8988	-0.22	-	
18.15	1077	422 Shell-Thick	INVSLE Combination	-1.1482	-4.5140	-0.22	-	
18.15	1077	422 Shell-Thick	INVSLE Combination	-0.5959	-1.9020	2.21	-	
20.51	1077	422 Shell-Thick	INVSLE Combination	-0.4314	-3.0484	5.13	-	
20.51	1077	422 Shell-Thick	INVSLE Combination	-0.8954	-5.6497	-0.22	-	
17.71	1077	422 Shell-Thick	INVSLE Combination	-1.1043	-4.3491	-0.22	-	
17.71	1077	422 Shell-Thick	INVSLE Combination	-0.5483	-1.8111	5.13	-	
33.25	1077	422 Shell-Thick	INVSLE Combination	-0.7580	-5.2208	2.98	-	
33.25	1077	422 Shell-Thick	INVSLE Combination	-1.4891	-9.4069	-0.36	-	
28.45	1077	422 Shell-Thick	INVSLE Combination	-1.8242	-7.1597	-0.36	-	
28.45	1077	422 Shell-Thick	INVSLE Combination	-0.9844	-3.0491	2.98	-	
13.23	1078	423 Shell-Thick	INVSLE Combination	-0.1906	-1.4085	3.95	-	
13.23	1078	423 Shell-Thick	INVSLE Combination	-0.4248	-3.0329	-0.17	-	
10.65	1078	423 Shell-Thick	INVSLE Combination	-0.6066	-2.1240	-0.17	-	
10.65	1078	423 Shell-Thick	INVSLE Combination	-0.3173	-0.5380	3.95	-	
18.32	1078	423 Shell-Thick	INVSLE Combination	-0.2797	-2.0020	2.79	-	
18.32	1078	423 Shell-Thick	INVSLE Combination	-0.5945	-4.2400	-0.23	-	
14.65	1078	423 Shell-Thick	INVSLE Combination	-0.8440	-2.9525	-0.23	-	
14.65	1078	423 Shell-Thick	INVSLE Combination	-0.4684	-0.7573	2.79	-	
17.86	1078	423 Shell-Thick	INVSLE Combination	-0.2573	-1.9014	6.34	-	
17.86	1078	423 Shell-Thick	INVSLE Combination	-0.5734	-4.0944	-0.22	-	
14.37	1078	423 Shell-Thick	INVSLE Combination	-0.8189	-2.8674	-0.22	-	
14.37	1078	423 Shell-Thick	INVSLE Combination	-0.4283	-0.7263	6.34	-	
28.73	1078	423 Shell-Thick	INVSLE Combination	-0.4622	-3.2169	3.76	-	
28.73	1078	423 Shell-Thick	INVSLE Combination	-0.9419	-6.7110	-0.37	-	
22.86	1078	423 Shell-Thick	INVSLE Combination	-1.3300	-4.6486	-0.37	-	
22.86	1078	423 Shell-Thick	INVSLE Combination	-0.7778	-1.2063	3.76	-	
10.80	1079	424 Shell-Thick	INVSLE Combination	-0.1276	-0.6490	5.02	-	
10.80	1079	424 Shell-Thick	INVSLE Combination	-0.1961	-1.8929	-0.17	-	
7.52	1079	424 Shell-Thick	INVSLE Combination	-0.4149	-1.1618	-0.17	-	
7.52	1079	424 Shell-Thick	INVSLE Combination	-0.3111	0.0721	5.02	-	
14.88	1079	424 Shell-Thick	INVSLE Combination	-0.1926	-0.9189	3.58	-	
14.88	1079	424 Shell-Thick	INVSLE Combination	-0.2740	-2.6218	-0.23	-	
10.28	1079	424 Shell-Thick	INVSLE Combination	-0.5718	-1.6075	-0.23	-	
10.28	1079	424 Shell-Thick	INVSLE Combination	-0.4595	0.0567	3.58	-	
14.58	1079	424 Shell-Thick	INVSLE Combination	-0.1723	-0.8761	7.97	-	
14.58	1079	424 Shell-Thick	INVSLE Combination	-0.2647	-2.5555	-0.22	-	
10.15	1079	424 Shell-Thick	INVSLE Combination	-0.5601	-1.5685	-0.22	-	



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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10.15	1079	424 Shell-Thick	INVSLU Combination	-0.4200	0.1037	7.97	-
23.22	1079	424 Shell-Thick	INVSLU Combination	-0.3256	-1.4715	4.84	-
23.22	1079	424 Shell-Thick	INVSLU Combination	-0.4336	-4.1136	-0.35	-
15.93	1079	424 Shell-Thick	INVSLU Combination	-0.8931	-2.5197	-0.35	-
15.93	1079	424 Shell-Thick	INVSLU Combination	-0.7632	0.0765	4.84	-
7.85	1080	425 Shell-Thick	INVSLE Combination	-0.0480	-0.2124	7.96	-
7.85	1080	425 Shell-Thick	INVSLE Combination	0.1804	-0.7305	-0.38	-
0.39	1080	425 Shell-Thick	INVSLE Combination	-0.3472	-0.3375	-0.38	-
0.39	1080	425 Shell-Thick	INVSLE Combination	-0.5251	0.2286	7.96	-
10.75	1080	425 Shell-Thick	INVSLE Combination	-0.0625	-0.3038	5.81	-
10.75	1080	425 Shell-Thick	INVSLE Combination	0.1336	-1.0018	-0.52	-
0.28	1080	425 Shell-Thick	INVSLE Combination	-0.4744	-0.4679	-0.52	-
0.28	1080	425 Shell-Thick	INVSLE Combination	-0.7219	0.1631	5.81	-
10.59	1080	425 Shell-Thick	INVSLU Combination	-0.0648	-0.2868	12.38	-
10.59	1080	425 Shell-Thick	INVSLU Combination	0.2763	-0.9861	-0.51	-
0.61	1080	425 Shell-Thick	INVSLU Combination	-0.4687	-0.4557	-0.51	-
0.61	1080	425 Shell-Thick	INVSLU Combination	-0.7089	0.3627	12.38	-
16.69	1080	425 Shell-Thick	INVSLU Combination	-0.0922	-0.4907	7.84	-
16.69	1080	425 Shell-Thick	INVSLU Combination	0.1803	-1.5572	-0.80	-
0.38	1080	425 Shell-Thick	INVSLU Combination	-0.7347	-0.7347	-0.80	-
0.38	1080	425 Shell-Thick	INVSLU Combination	-1.1249	0.2202	7.84	-

Table: Joint Coordinates, Part 1 of 2

Joint	CoordSys	CoordType	XorR m	Y m	Z m	SpecialJt	GlobalX m
1	GLOBAL	Cartesian	0.00000	0.00000	0.00000	No	0.00000
2	GLOBAL	Cartesian	0.00000	0.00000	2.55000	No	0.00000
3	GLOBAL	Cartesian	0.00000	0.00000	2.80000	No	0.00000
4	GLOBAL	Cartesian	0.00000	0.00000	3.05000	No	0.00000
5	GLOBAL	Cartesian	0.00000	0.00000	3.40000	No	0.00000
6	GLOBAL	Cartesian	0.11765	0.00000	2.55000	No	0.11765
7	GLOBAL	Cartesian	0.11765	0.00000	2.80000	No	0.11765
8	GLOBAL	Cartesian	0.11765	0.00000	3.05000	No	0.11765
9	GLOBAL	Cartesian	0.11765	0.00000	3.40000	No	0.11765
10	GLOBAL	Cartesian	0.23529	0.00000	2.55000	No	0.23529
11	GLOBAL	Cartesian	0.23529	0.00000	2.80000	No	0.23529
12	GLOBAL	Cartesian	0.23529	0.00000	3.05000	No	0.23529
13	GLOBAL	Cartesian	0.23529	0.00000	3.40000	No	0.23529
14	GLOBAL	Cartesian	0.35294	0.00000	2.55000	No	0.35294
15	GLOBAL	Cartesian	0.35294	0.00000	2.80000	No	0.35294
16	GLOBAL	Cartesian	0.35294	0.00000	3.05000	No	0.35294
17	GLOBAL	Cartesian	0.35294	0.00000	3.40000	No	0.35294
18	GLOBAL	Cartesian	0.47059	0.00000	2.55000	No	0.47059
19	GLOBAL	Cartesian	0.47059	0.00000	2.80000	No	0.47059
20	GLOBAL	Cartesian	0.47059	0.00000	3.05000	No	0.47059
21	GLOBAL	Cartesian	0.47059	0.00000	3.40000	No	0.47059
22	GLOBAL	Cartesian	0.58824	0.00000	2.55000	No	0.58824
23	GLOBAL	Cartesian	0.58824	0.00000	2.80000	No	0.58824
24	GLOBAL	Cartesian	0.58824	0.00000	3.05000	No	0.58824
25	GLOBAL	Cartesian	0.58824	0.00000	3.40000	No	0.58824
26	GLOBAL	Cartesian	0.70588	0.00000	2.55000	No	0.70588
27	GLOBAL	Cartesian	0.70588	0.00000	2.80000	No	0.70588
28	GLOBAL	Cartesian	0.70588	0.00000	3.05000	No	0.70588
29	GLOBAL	Cartesian	0.70588	0.00000	3.40000	No	0.70588

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 353 di 416
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30	GLOBAL	Cartesian	0.82353	0.00000	2.55000	No	0.82353
31	GLOBAL	Cartesian	0.82353	0.00000	2.80000	No	0.82353
32	GLOBAL	Cartesian	0.82353	0.00000	3.05000	No	0.82353
33	GLOBAL	Cartesian	0.82353	0.00000	3.40000	No	0.82353
34	GLOBAL	Cartesian	0.94118	0.00000	2.55000	No	0.94118
35	GLOBAL	Cartesian	0.94118	0.00000	2.80000	No	0.94118
36	GLOBAL	Cartesian	0.94118	0.00000	3.05000	No	0.94118
37	GLOBAL	Cartesian	0.94118	0.00000	3.40000	No	0.94118
38	GLOBAL	Cartesian	1.05882	0.00000	2.55000	No	1.05882
39	GLOBAL	Cartesian	1.05882	0.00000	2.80000	No	1.05882
40	GLOBAL	Cartesian	1.05882	0.00000	3.05000	No	1.05882
41	GLOBAL	Cartesian	1.05882	0.00000	3.40000	No	1.05882
42	GLOBAL	Cartesian	1.17647	0.00000	2.55000	No	1.17647
43	GLOBAL	Cartesian	1.17647	0.00000	2.80000	No	1.17647
44	GLOBAL	Cartesian	1.17647	0.00000	3.05000	No	1.17647
45	GLOBAL	Cartesian	1.17647	0.00000	3.40000	No	1.17647
46	GLOBAL	Cartesian	1.29412	0.00000	2.55000	No	1.29412
47	GLOBAL	Cartesian	1.29412	0.00000	2.80000	No	1.29412
48	GLOBAL	Cartesian	1.29412	0.00000	3.05000	No	1.29412
49	GLOBAL	Cartesian	1.29412	0.00000	3.40000	No	1.29412
50	GLOBAL	Cartesian	1.41176	0.00000	2.55000	No	1.41176
51	GLOBAL	Cartesian	1.41176	0.00000	2.80000	No	1.41176
52	GLOBAL	Cartesian	1.41176	0.00000	3.05000	No	1.41176
53	GLOBAL	Cartesian	1.41176	0.00000	3.40000	No	1.41176
54	GLOBAL	Cartesian	1.52941	0.00000	2.55000	No	1.52941
55	GLOBAL	Cartesian	1.52941	0.00000	2.80000	No	1.52941
56	GLOBAL	Cartesian	1.52941	0.00000	3.05000	No	1.52941
57	GLOBAL	Cartesian	1.52941	0.00000	3.40000	No	1.52941
58	GLOBAL	Cartesian	1.64706	0.00000	2.55000	No	1.64706
59	GLOBAL	Cartesian	1.64706	0.00000	2.80000	No	1.64706
60	GLOBAL	Cartesian	1.64706	0.00000	3.05000	No	1.64706
61	GLOBAL	Cartesian	1.64706	0.00000	3.40000	No	1.64706
62	GLOBAL	Cartesian	1.76471	0.00000	2.55000	No	1.76471
63	GLOBAL	Cartesian	1.76471	0.00000	2.80000	No	1.76471
64	GLOBAL	Cartesian	1.76471	0.00000	3.05000	No	1.76471
65	GLOBAL	Cartesian	1.76471	0.00000	3.40000	No	1.76471
66	GLOBAL	Cartesian	1.88235	0.00000	2.55000	No	1.88235
67	GLOBAL	Cartesian	1.88235	0.00000	2.80000	No	1.88235
68	GLOBAL	Cartesian	1.88235	0.00000	3.05000	No	1.88235
69	GLOBAL	Cartesian	1.88235	0.00000	3.40000	No	1.88235
70	GLOBAL	Cartesian	2.00000	0.00000	2.55000	No	2.00000
71	GLOBAL	Cartesian	2.00000	0.00000	2.80000	No	2.00000
72	GLOBAL	Cartesian	2.00000	0.00000	3.05000	No	2.00000
73	GLOBAL	Cartesian	2.00000	0.00000	3.40000	No	2.00000
74	GLOBAL	Cartesian	2.11765	0.00000	2.55000	No	2.11765
75	GLOBAL	Cartesian	2.11765	0.00000	2.80000	No	2.11765
76	GLOBAL	Cartesian	2.11765	0.00000	3.05000	No	2.11765
77	GLOBAL	Cartesian	2.11765	0.00000	3.40000	No	2.11765
78	GLOBAL	Cartesian	2.23529	0.00000	2.55000	No	2.23529
79	GLOBAL	Cartesian	2.23529	0.00000	2.80000	No	2.23529
80	GLOBAL	Cartesian	2.23529	0.00000	3.05000	No	2.23529
81	GLOBAL	Cartesian	2.23529	0.00000	3.40000	No	2.23529
82	GLOBAL	Cartesian	2.35294	0.00000	2.55000	No	2.35294
83	GLOBAL	Cartesian	2.35294	0.00000	2.80000	No	2.35294
84	GLOBAL	Cartesian	2.35294	0.00000	3.05000	No	2.35294
85	GLOBAL	Cartesian	2.35294	0.00000	3.40000	No	2.35294
86	GLOBAL	Cartesian	2.47059	0.00000	2.55000	No	2.47059
87	GLOBAL	Cartesian	2.47059	0.00000	2.80000	No	2.47059
88	GLOBAL	Cartesian	2.47059	0.00000	3.05000	No	2.47059
89	GLOBAL	Cartesian	2.47059	0.00000	3.40000	No	2.47059
90	GLOBAL	Cartesian	2.58824	0.00000	2.55000	No	2.58824
91	GLOBAL	Cartesian	2.58824	0.00000	2.80000	No	2.58824
92	GLOBAL	Cartesian	2.58824	0.00000	3.05000	No	2.58824
93	GLOBAL	Cartesian	2.58824	0.00000	3.40000	No	2.58824
94	GLOBAL	Cartesian	2.70588	0.00000	2.55000	No	2.70588
95	GLOBAL	Cartesian	2.70588	0.00000	2.80000	No	2.70588
96	GLOBAL	Cartesian	2.70588	0.00000	3.05000	No	2.70588
97	GLOBAL	Cartesian	2.70588	0.00000	3.40000	No	2.70588
98	GLOBAL	Cartesian	2.82353	0.00000	2.55000	No	2.82353
99	GLOBAL	Cartesian	2.82353	0.00000	2.80000	No	2.82353
100	GLOBAL	Cartesian	2.82353	0.00000	3.05000	No	2.82353
101	GLOBAL	Cartesian	2.82353	0.00000	3.40000	No	2.82353
102	GLOBAL	Cartesian	2.99998	0.00000	2.55000	No	2.99998
103	GLOBAL	Cartesian	2.99998	0.00000	2.80000	No	2.99998
104	GLOBAL	Cartesian	2.99998	0.00000	3.05000	No	2.99998
105	GLOBAL	Cartesian	2.99998	0.00000	3.40000	No	2.99998
231	GLOBAL	Cartesian	0.11765	0.00000	2.42500	No	0.11765
232	GLOBAL	Cartesian	0.00000	0.00000	2.42500	No	0.00000



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 354 di 416
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233	GLOBAL	Cartesian	0.11765	0.00000	2.67500	No	0.11765
234	GLOBAL	Cartesian	0.00000	0.00000	2.67500	No	0.00000
235	GLOBAL	Cartesian	0.11765	0.00000	2.92500	No	0.11765
236	GLOBAL	Cartesian	0.00000	0.00000	2.92500	No	0.00000
237	GLOBAL	Cartesian	0.11765	0.00000	3.17500	No	0.11765
238	GLOBAL	Cartesian	0.00000	0.00000	3.17500	No	0.00000
239	GLOBAL	Cartesian	0.23529	0.00000	2.42500	No	0.23529
240	GLOBAL	Cartesian	0.23529	0.00000	2.67500	No	0.23529
241	GLOBAL	Cartesian	0.23529	0.00000	2.92500	No	0.23529
242	GLOBAL	Cartesian	0.23529	0.00000	3.17500	No	0.23529
243	GLOBAL	Cartesian	0.35294	0.00000	2.42500	No	0.35294
244	GLOBAL	Cartesian	0.35294	0.00000	2.67500	No	0.35294
245	GLOBAL	Cartesian	0.35294	0.00000	2.92500	No	0.35294
246	GLOBAL	Cartesian	0.35294	0.00000	3.17500	No	0.35294
247	GLOBAL	Cartesian	0.47059	0.00000	2.42500	No	0.47059
248	GLOBAL	Cartesian	0.47059	0.00000	2.67500	No	0.47059
249	GLOBAL	Cartesian	0.47059	0.00000	2.92500	No	0.47059
250	GLOBAL	Cartesian	0.47059	0.00000	3.17500	No	0.47059
251	GLOBAL	Cartesian	0.58824	0.00000	2.42500	No	0.58824
252	GLOBAL	Cartesian	0.58824	0.00000	2.67500	No	0.58824
253	GLOBAL	Cartesian	0.58824	0.00000	2.92500	No	0.58824
254	GLOBAL	Cartesian	0.58824	0.00000	3.17500	No	0.58824
255	GLOBAL	Cartesian	0.70588	0.00000	2.42500	No	0.70588
256	GLOBAL	Cartesian	0.70588	0.00000	2.67500	No	0.70588
257	GLOBAL	Cartesian	0.70588	0.00000	2.92500	No	0.70588
258	GLOBAL	Cartesian	0.70588	0.00000	3.17500	No	0.70588
259	GLOBAL	Cartesian	0.82353	0.00000	2.42500	No	0.82353
260	GLOBAL	Cartesian	0.82353	0.00000	2.67500	No	0.82353
261	GLOBAL	Cartesian	0.82353	0.00000	2.92500	No	0.82353
262	GLOBAL	Cartesian	0.82353	0.00000	3.17500	No	0.82353
263	GLOBAL	Cartesian	0.94118	0.00000	2.42500	No	0.94118
264	GLOBAL	Cartesian	0.94118	0.00000	2.67500	No	0.94118
265	GLOBAL	Cartesian	0.94118	0.00000	2.92500	No	0.94118
266	GLOBAL	Cartesian	0.94118	0.00000	3.17500	No	0.94118
267	GLOBAL	Cartesian	1.05882	0.00000	2.42500	No	1.05882
268	GLOBAL	Cartesian	1.05882	0.00000	2.67500	No	1.05882
269	GLOBAL	Cartesian	1.05882	0.00000	2.92500	No	1.05882
270	GLOBAL	Cartesian	1.05882	0.00000	3.17500	No	1.05882
271	GLOBAL	Cartesian	1.17647	0.00000	2.42500	No	1.17647
272	GLOBAL	Cartesian	1.17647	0.00000	2.67500	No	1.17647
273	GLOBAL	Cartesian	1.17647	0.00000	2.92500	No	1.17647
274	GLOBAL	Cartesian	1.17647	0.00000	3.17500	No	1.17647
275	GLOBAL	Cartesian	1.29412	0.00000	2.42500	No	1.29412
276	GLOBAL	Cartesian	1.29412	0.00000	2.67500	No	1.29412
277	GLOBAL	Cartesian	1.29412	0.00000	2.92500	No	1.29412
278	GLOBAL	Cartesian	1.29412	0.00000	3.17500	No	1.29412
279	GLOBAL	Cartesian	1.41176	0.00000	2.42500	No	1.41176
280	GLOBAL	Cartesian	1.41176	0.00000	2.67500	No	1.41176
281	GLOBAL	Cartesian	1.41176	0.00000	2.92500	No	1.41176
282	GLOBAL	Cartesian	1.41176	0.00000	3.17500	No	1.41176
283	GLOBAL	Cartesian	1.52941	0.00000	2.42500	No	1.52941
284	GLOBAL	Cartesian	1.52941	0.00000	2.67500	No	1.52941
285	GLOBAL	Cartesian	1.52941	0.00000	2.92500	No	1.52941
286	GLOBAL	Cartesian	1.52941	0.00000	3.17500	No	1.52941
287	GLOBAL	Cartesian	1.64706	0.00000	2.42500	No	1.64706
288	GLOBAL	Cartesian	1.64706	0.00000	2.67500	No	1.64706
289	GLOBAL	Cartesian	1.64706	0.00000	2.92500	No	1.64706
290	GLOBAL	Cartesian	1.64706	0.00000	3.17500	No	1.64706
291	GLOBAL	Cartesian	1.76471	0.00000	2.42500	No	1.76471
292	GLOBAL	Cartesian	1.76471	0.00000	2.67500	No	1.76471
293	GLOBAL	Cartesian	1.76471	0.00000	2.92500	No	1.76471
294	GLOBAL	Cartesian	1.76471	0.00000	3.17500	No	1.76471
295	GLOBAL	Cartesian	1.88235	0.00000	2.42500	No	1.88235
296	GLOBAL	Cartesian	1.88235	0.00000	2.67500	No	1.88235
297	GLOBAL	Cartesian	1.88235	0.00000	2.92500	No	1.88235
298	GLOBAL	Cartesian	1.88235	0.00000	3.17500	No	1.88235
299	GLOBAL	Cartesian	2.00000	0.00000	2.42500	No	2.00000
300	GLOBAL	Cartesian	2.00000	0.00000	2.67500	No	2.00000
301	GLOBAL	Cartesian	2.00000	0.00000	2.92500	No	2.00000
302	GLOBAL	Cartesian	2.00000	0.00000	3.17500	No	2.00000
303	GLOBAL	Cartesian	2.11765	0.00000	2.42500	No	2.11765
304	GLOBAL	Cartesian	2.11765	0.00000	2.67500	No	2.11765
305	GLOBAL	Cartesian	2.11765	0.00000	2.92500	No	2.11765
306	GLOBAL	Cartesian	2.11765	0.00000	3.17500	No	2.11765
307	GLOBAL	Cartesian	2.23529	0.00000	2.42500	No	2.23529
308	GLOBAL	Cartesian	2.23529	0.00000	2.67500	No	2.23529
309	GLOBAL	Cartesian	2.23529	0.00000	2.92500	No	2.23529
310	GLOBAL	Cartesian	2.23529	0.00000	3.17500	No	2.23529

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 355 di 416
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311	GLOBAL	Cartesian	2.35294	0.00000	2.42500	No	2.35294
312	GLOBAL	Cartesian	2.35294	0.00000	2.67500	No	2.35294
313	GLOBAL	Cartesian	2.35294	0.00000	2.92500	No	2.35294
314	GLOBAL	Cartesian	2.35294	0.00000	3.17500	No	2.35294
315	GLOBAL	Cartesian	2.47059	0.00000	2.42500	No	2.47059
316	GLOBAL	Cartesian	2.47059	0.00000	2.67500	No	2.47059
317	GLOBAL	Cartesian	2.47059	0.00000	2.92500	No	2.47059
318	GLOBAL	Cartesian	2.47059	0.00000	3.17500	No	2.47059
319	GLOBAL	Cartesian	2.58824	0.00000	2.42500	No	2.58824
320	GLOBAL	Cartesian	2.58824	0.00000	2.67500	No	2.58824
321	GLOBAL	Cartesian	2.58824	0.00000	2.92500	No	2.58824
322	GLOBAL	Cartesian	2.58824	0.00000	3.17500	No	2.58824
323	GLOBAL	Cartesian	2.70588	0.00000	2.42500	No	2.70588
324	GLOBAL	Cartesian	2.70588	0.00000	2.67500	No	2.70588
325	GLOBAL	Cartesian	2.70588	0.00000	2.92500	No	2.70588
326	GLOBAL	Cartesian	2.70588	0.00000	3.17500	No	2.70588
327	GLOBAL	Cartesian	2.82353	0.00000	2.42500	No	2.82353
328	GLOBAL	Cartesian	2.82353	0.00000	2.67500	No	2.82353
329	GLOBAL	Cartesian	2.82353	0.00000	2.92500	No	2.82353
330	GLOBAL	Cartesian	2.82353	0.00000	3.17500	No	2.82353
331	GLOBAL	Cartesian	2.99998	0.00000	2.42500	No	2.99998
332	GLOBAL	Cartesian	2.99998	0.00000	2.67500	No	2.99998
333	GLOBAL	Cartesian	2.99998	0.00000	2.92500	No	2.99998
334	GLOBAL	Cartesian	2.99998	0.00000	3.17500	No	2.99998
335	GLOBAL	Cartesian	0.11765	0.00000	3.28750	No	0.11765
336	GLOBAL	Cartesian	0.00000	0.00000	3.28750	No	0.00000
337	GLOBAL	Cartesian	0.23529	0.00000	3.28750	No	0.23529
338	GLOBAL	Cartesian	0.35294	0.00000	3.28750	No	0.35294
339	GLOBAL	Cartesian	0.47059	0.00000	3.28750	No	0.47059
340	GLOBAL	Cartesian	0.58824	0.00000	3.28750	No	0.58824
341	GLOBAL	Cartesian	0.70588	0.00000	3.28750	No	0.70588
342	GLOBAL	Cartesian	0.82353	0.00000	3.28750	No	0.82353
343	GLOBAL	Cartesian	0.94118	0.00000	3.28750	No	0.94118
344	GLOBAL	Cartesian	1.05882	0.00000	3.28750	No	1.05882
345	GLOBAL	Cartesian	1.17647	0.00000	3.28750	No	1.17647
346	GLOBAL	Cartesian	1.29412	0.00000	3.28750	No	1.29412
347	GLOBAL	Cartesian	1.41176	0.00000	3.28750	No	1.41176
348	GLOBAL	Cartesian	1.52941	0.00000	3.28750	No	1.52941
349	GLOBAL	Cartesian	1.64706	0.00000	3.28750	No	1.64706
350	GLOBAL	Cartesian	1.76471	0.00000	3.28750	No	1.76471
351	GLOBAL	Cartesian	1.88235	0.00000	3.28750	No	1.88235
352	GLOBAL	Cartesian	2.00000	0.00000	3.28750	No	2.00000
353	GLOBAL	Cartesian	2.11765	0.00000	3.28750	No	2.11765
354	GLOBAL	Cartesian	2.23529	0.00000	3.28750	No	2.23529
355	GLOBAL	Cartesian	2.35294	0.00000	3.28750	No	2.35294
356	GLOBAL	Cartesian	2.47059	0.00000	3.28750	No	2.47059
357	GLOBAL	Cartesian	2.58824	0.00000	3.28750	No	2.58824
358	GLOBAL	Cartesian	2.70588	0.00000	3.28750	No	2.70588
359	GLOBAL	Cartesian	2.82353	0.00000	3.28750	No	2.82353
360	GLOBAL	Cartesian	2.99998	0.00000	3.28750	No	2.99998
1015	GLOBAL	Cartesian	0.00000	0.00000	2.30000	No	0.00000
1016	GLOBAL	Cartesian	0.11765	0.00000	2.30000	No	0.11765
1017	GLOBAL	Cartesian	0.23529	0.00000	2.30000	No	0.23529
1018	GLOBAL	Cartesian	0.35294	0.00000	2.30000	No	0.35294
1019	GLOBAL	Cartesian	0.47059	0.00000	2.30000	No	0.47059
1020	GLOBAL	Cartesian	0.58824	0.00000	2.30000	No	0.58824
1021	GLOBAL	Cartesian	0.70588	0.00000	2.30000	No	0.70588
1022	GLOBAL	Cartesian	0.82353	0.00000	2.30000	No	0.82353
1023	GLOBAL	Cartesian	0.94118	0.00000	2.30000	No	0.94118
1024	GLOBAL	Cartesian	1.05882	0.00000	2.30000	No	1.05882
1025	GLOBAL	Cartesian	1.17647	0.00000	2.30000	No	1.17647
1026	GLOBAL	Cartesian	1.29412	0.00000	2.30000	No	1.29412
1027	GLOBAL	Cartesian	1.41176	0.00000	2.30000	No	1.41176
1028	GLOBAL	Cartesian	1.52941	0.00000	2.30000	No	1.52941
1029	GLOBAL	Cartesian	1.64706	0.00000	2.30000	No	1.64706
1030	GLOBAL	Cartesian	1.76471	0.00000	2.30000	No	1.76471
1031	GLOBAL	Cartesian	1.88235	0.00000	2.30000	No	1.88235
1032	GLOBAL	Cartesian	2.00000	0.00000	2.30000	No	2.00000
1033	GLOBAL	Cartesian	2.11765	0.00000	2.30000	No	2.11765
1034	GLOBAL	Cartesian	2.23529	0.00000	2.30000	No	2.23529
1035	GLOBAL	Cartesian	2.35294	0.00000	2.30000	No	2.35294
1036	GLOBAL	Cartesian	2.47059	0.00000	2.30000	No	2.47059
1037	GLOBAL	Cartesian	2.58824	0.00000	2.30000	No	2.58824
1038	GLOBAL	Cartesian	2.70588	0.00000	2.30000	No	2.70588
1039	GLOBAL	Cartesian	2.82353	0.00000	2.30000	No	2.82353
1040	GLOBAL	Cartesian	2.99998	0.00000	2.30000	No	2.99998
1050	GLOBAL	Cartesian	0.00000	0.00000	2.15002	No	0.00000
1051	GLOBAL	Cartesian	0.11765	0.00000	2.15002	No	0.11765

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 356 di 416
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1052	GLOBAL	Cartesian	0.23529	0.00000	2.15002	No	0.23529
1053	GLOBAL	Cartesian	0.35294	0.00000	2.15002	No	0.35294
1054	GLOBAL	Cartesian	0.47059	0.00000	2.15002	No	0.47059
1055	GLOBAL	Cartesian	0.58824	0.00000	2.15002	No	0.58824
1056	GLOBAL	Cartesian	0.70588	0.00000	2.15002	No	0.70588
1057	GLOBAL	Cartesian	0.82353	0.00000	2.15002	No	0.82353
1058	GLOBAL	Cartesian	0.94118	0.00000	2.15002	No	0.94118
1059	GLOBAL	Cartesian	1.05882	0.00000	2.15002	No	1.05882
1060	GLOBAL	Cartesian	1.17647	0.00000	2.15002	No	1.17647
1061	GLOBAL	Cartesian	1.29412	0.00000	2.15002	No	1.29412
1062	GLOBAL	Cartesian	1.41176	0.00000	2.15002	No	1.41176
1063	GLOBAL	Cartesian	1.52941	0.00000	2.15002	No	1.52941
1064	GLOBAL	Cartesian	1.64706	0.00000	2.15002	No	1.64706
1065	GLOBAL	Cartesian	1.76471	0.00000	2.15002	No	1.76471
1066	GLOBAL	Cartesian	1.88235	0.00000	2.15002	No	1.88235
1067	GLOBAL	Cartesian	2.00000	0.00000	2.15002	No	2.00000
1068	GLOBAL	Cartesian	2.11765	0.00000	2.15002	No	2.11765
1069	GLOBAL	Cartesian	2.23529	0.00000	2.15002	No	2.23529
1070	GLOBAL	Cartesian	2.35294	0.00000	2.15002	No	2.35294
1071	GLOBAL	Cartesian	2.47059	0.00000	2.15002	No	2.47059
1072	GLOBAL	Cartesian	2.58824	0.00000	2.15002	No	2.58824
1073	GLOBAL	Cartesian	2.70588	0.00000	2.15002	No	2.70588
1074	GLOBAL	Cartesian	2.82353	0.00000	2.15002	No	2.82353
1075	GLOBAL	Cartesian	2.99998	0.00000	2.15002	No	2.99998
1085	GLOBAL	Cartesian	0.00000	0.00000	2.01565	No	0.00000
1086	GLOBAL	Cartesian	0.11765	0.00000	2.01565	No	0.11765
1087	GLOBAL	Cartesian	0.23529	0.00000	2.01565	No	0.23529
1088	GLOBAL	Cartesian	0.35294	0.00000	2.01565	No	0.35294
1089	GLOBAL	Cartesian	0.47059	0.00000	2.01565	No	0.47059
1090	GLOBAL	Cartesian	0.58824	0.00000	2.01565	No	0.58824
1091	GLOBAL	Cartesian	0.70588	0.00000	2.01565	No	0.70588
1092	GLOBAL	Cartesian	0.82353	0.00000	2.01565	No	0.82353
1093	GLOBAL	Cartesian	0.94118	0.00000	2.01565	No	0.94118
1094	GLOBAL	Cartesian	1.05882	0.00000	2.01565	No	1.05882
1095	GLOBAL	Cartesian	1.17647	0.00000	2.01565	No	1.17647
1096	GLOBAL	Cartesian	1.29412	0.00000	2.01565	No	1.29412
1097	GLOBAL	Cartesian	1.41176	0.00000	2.01565	No	1.41176
1098	GLOBAL	Cartesian	1.52941	0.00000	2.01565	No	1.52941
1099	GLOBAL	Cartesian	1.64706	0.00000	2.01565	No	1.64706
1100	GLOBAL	Cartesian	1.76471	0.00000	2.01565	No	1.76471
1101	GLOBAL	Cartesian	1.88235	0.00000	2.01565	No	1.88235
1102	GLOBAL	Cartesian	2.00000	0.00000	2.01565	No	2.00000
1103	GLOBAL	Cartesian	2.11765	0.00000	2.01565	No	2.11765
1104	GLOBAL	Cartesian	2.23529	0.00000	2.01565	No	2.23529
1105	GLOBAL	Cartesian	2.35294	0.00000	2.01565	No	2.35294
1106	GLOBAL	Cartesian	2.47059	0.00000	2.01565	No	2.47059
1107	GLOBAL	Cartesian	2.58824	0.00000	2.01565	No	2.58824
1108	GLOBAL	Cartesian	2.70588	0.00000	2.01565	No	2.70588
1109	GLOBAL	Cartesian	2.82353	0.00000	2.01565	No	2.82353
1110	GLOBAL	Cartesian	2.99998	0.00000	2.01565	No	2.99998
1120	GLOBAL	Cartesian	0.00000	0.00000	1.88127	No	0.00000
1121	GLOBAL	Cartesian	0.11765	0.00000	1.88127	No	0.11765
1122	GLOBAL	Cartesian	0.23529	0.00000	1.88127	No	0.23529
1123	GLOBAL	Cartesian	0.35294	0.00000	1.88127	No	0.35294
1124	GLOBAL	Cartesian	0.47059	0.00000	1.88127	No	0.47059
1125	GLOBAL	Cartesian	0.58824	0.00000	1.88127	No	0.58824
1126	GLOBAL	Cartesian	0.70588	0.00000	1.88127	No	0.70588
1127	GLOBAL	Cartesian	0.82353	0.00000	1.88127	No	0.82353
1128	GLOBAL	Cartesian	0.94118	0.00000	1.88127	No	0.94118
1129	GLOBAL	Cartesian	1.05882	0.00000	1.88127	No	1.05882
1130	GLOBAL	Cartesian	1.17647	0.00000	1.88127	No	1.17647
1131	GLOBAL	Cartesian	1.29412	0.00000	1.88127	No	1.29412
1132	GLOBAL	Cartesian	1.41176	0.00000	1.88127	No	1.41176
1133	GLOBAL	Cartesian	1.52941	0.00000	1.88127	No	1.52941
1134	GLOBAL	Cartesian	1.64706	0.00000	1.88127	No	1.64706
1135	GLOBAL	Cartesian	1.76471	0.00000	1.88127	No	1.76471
1136	GLOBAL	Cartesian	1.88235	0.00000	1.88127	No	1.88235
1137	GLOBAL	Cartesian	2.00000	0.00000	1.88127	No	2.00000
1138	GLOBAL	Cartesian	2.11765	0.00000	1.88127	No	2.11765
1139	GLOBAL	Cartesian	2.23529	0.00000	1.88127	No	2.23529
1140	GLOBAL	Cartesian	2.35294	0.00000	1.88127	No	2.35294
1141	GLOBAL	Cartesian	2.47059	0.00000	1.88127	No	2.47059
1142	GLOBAL	Cartesian	2.58824	0.00000	1.88127	No	2.58824
1143	GLOBAL	Cartesian	2.70588	0.00000	1.88127	No	2.70588
1144	GLOBAL	Cartesian	2.82353	0.00000	1.88127	No	2.82353
1145	GLOBAL	Cartesian	2.99998	0.00000	1.88127	No	2.99998
1155	GLOBAL	Cartesian	0.00000	0.00000	1.74689	No	0.00000
1156	GLOBAL	Cartesian	0.11765	0.00000	1.74689	No	0.11765

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 357 di 416
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1157	GLOBAL	Cartesian	0.23529	0.00000	1.74689	No	0.23529
1158	GLOBAL	Cartesian	0.35294	0.00000	1.74689	No	0.35294
1159	GLOBAL	Cartesian	0.47059	0.00000	1.74689	No	0.47059
1160	GLOBAL	Cartesian	0.58824	0.00000	1.74689	No	0.58824
1161	GLOBAL	Cartesian	0.70588	0.00000	1.74689	No	0.70588
1162	GLOBAL	Cartesian	0.82353	0.00000	1.74689	No	0.82353
1163	GLOBAL	Cartesian	0.94118	0.00000	1.74689	No	0.94118
1164	GLOBAL	Cartesian	1.05882	0.00000	1.74689	No	1.05882
1165	GLOBAL	Cartesian	1.17647	0.00000	1.74689	No	1.17647
1166	GLOBAL	Cartesian	1.29412	0.00000	1.74689	No	1.29412
1167	GLOBAL	Cartesian	1.41176	0.00000	1.74689	No	1.41176
1168	GLOBAL	Cartesian	1.52941	0.00000	1.74689	No	1.52941
1169	GLOBAL	Cartesian	1.64706	0.00000	1.74689	No	1.64706
1170	GLOBAL	Cartesian	1.76471	0.00000	1.74689	No	1.76471
1171	GLOBAL	Cartesian	1.88235	0.00000	1.74689	No	1.88235
1172	GLOBAL	Cartesian	2.00000	0.00000	1.74689	No	2.00000
1173	GLOBAL	Cartesian	2.11765	0.00000	1.74689	No	2.11765
1174	GLOBAL	Cartesian	2.23529	0.00000	1.74689	No	2.23529
1175	GLOBAL	Cartesian	2.35294	0.00000	1.74689	No	2.35294
1176	GLOBAL	Cartesian	2.47059	0.00000	1.74689	No	2.47059
1177	GLOBAL	Cartesian	2.58824	0.00000	1.74689	No	2.58824
1178	GLOBAL	Cartesian	2.70588	0.00000	1.74689	No	2.70588
1179	GLOBAL	Cartesian	2.82353	0.00000	1.74689	No	2.82353
1180	GLOBAL	Cartesian	2.99998	0.00000	1.74689	No	2.99998
1190	GLOBAL	Cartesian	0.00000	0.00000	1.61252	No	0.00000
1191	GLOBAL	Cartesian	0.11765	0.00000	1.61252	No	0.11765
1192	GLOBAL	Cartesian	0.23529	0.00000	1.61252	No	0.23529
1193	GLOBAL	Cartesian	0.35294	0.00000	1.61252	No	0.35294
1194	GLOBAL	Cartesian	0.47059	0.00000	1.61252	No	0.47059
1195	GLOBAL	Cartesian	0.58824	0.00000	1.61252	No	0.58824
1196	GLOBAL	Cartesian	0.70588	0.00000	1.61252	No	0.70588
1197	GLOBAL	Cartesian	0.82353	0.00000	1.61252	No	0.82353
1198	GLOBAL	Cartesian	0.94118	0.00000	1.61252	No	0.94118
1199	GLOBAL	Cartesian	1.05882	0.00000	1.61252	No	1.05882
1200	GLOBAL	Cartesian	1.17647	0.00000	1.61252	No	1.17647
1201	GLOBAL	Cartesian	1.29412	0.00000	1.61252	No	1.29412
1202	GLOBAL	Cartesian	1.41176	0.00000	1.61252	No	1.41176
1203	GLOBAL	Cartesian	1.52941	0.00000	1.61252	No	1.52941
1204	GLOBAL	Cartesian	1.64706	0.00000	1.61252	No	1.64706
1205	GLOBAL	Cartesian	1.76471	0.00000	1.61252	No	1.76471
1206	GLOBAL	Cartesian	1.88235	0.00000	1.61252	No	1.88235
1207	GLOBAL	Cartesian	2.00000	0.00000	1.61252	No	2.00000
1208	GLOBAL	Cartesian	2.11765	0.00000	1.61252	No	2.11765
1209	GLOBAL	Cartesian	2.23529	0.00000	1.61252	No	2.23529
1210	GLOBAL	Cartesian	2.35294	0.00000	1.61252	No	2.35294
1211	GLOBAL	Cartesian	2.47059	0.00000	1.61252	No	2.47059
1212	GLOBAL	Cartesian	2.58824	0.00000	1.61252	No	2.58824
1213	GLOBAL	Cartesian	2.70588	0.00000	1.61252	No	2.70588
1214	GLOBAL	Cartesian	2.82353	0.00000	1.61252	No	2.82353
1215	GLOBAL	Cartesian	2.99998	0.00000	1.61252	No	2.99998
1225	GLOBAL	Cartesian	0.00000	0.00000	1.47814	No	0.00000
1226	GLOBAL	Cartesian	0.11765	0.00000	1.47814	No	0.11765
1227	GLOBAL	Cartesian	0.23529	0.00000	1.47814	No	0.23529
1228	GLOBAL	Cartesian	0.35294	0.00000	1.47814	No	0.35294
1229	GLOBAL	Cartesian	0.47059	0.00000	1.47814	No	0.47059
1230	GLOBAL	Cartesian	0.58824	0.00000	1.47814	No	0.58824
1231	GLOBAL	Cartesian	0.70588	0.00000	1.47814	No	0.70588
1232	GLOBAL	Cartesian	0.82353	0.00000	1.47814	No	0.82353
1233	GLOBAL	Cartesian	0.94118	0.00000	1.47814	No	0.94118
1234	GLOBAL	Cartesian	1.05882	0.00000	1.47814	No	1.05882
1235	GLOBAL	Cartesian	1.17647	0.00000	1.47814	No	1.17647
1236	GLOBAL	Cartesian	1.29412	0.00000	1.47814	No	1.29412
1237	GLOBAL	Cartesian	1.41176	0.00000	1.47814	No	1.41176
1238	GLOBAL	Cartesian	1.52941	0.00000	1.47814	No	1.52941
1239	GLOBAL	Cartesian	1.64706	0.00000	1.47814	No	1.64706
1240	GLOBAL	Cartesian	1.76471	0.00000	1.47814	No	1.76471
1241	GLOBAL	Cartesian	1.88235	0.00000	1.47814	No	1.88235
1242	GLOBAL	Cartesian	2.00000	0.00000	1.47814	No	2.00000
1243	GLOBAL	Cartesian	2.11765	0.00000	1.47814	No	2.11765
1244	GLOBAL	Cartesian	2.23529	0.00000	1.47814	No	2.23529
1245	GLOBAL	Cartesian	2.35294	0.00000	1.47814	No	2.35294
1246	GLOBAL	Cartesian	2.47059	0.00000	1.47814	No	2.47059
1247	GLOBAL	Cartesian	2.58824	0.00000	1.47814	No	2.58824
1248	GLOBAL	Cartesian	2.70588	0.00000	1.47814	No	2.70588
1249	GLOBAL	Cartesian	2.82353	0.00000	1.47814	No	2.82353
1250	GLOBAL	Cartesian	2.99998	0.00000	1.47814	No	2.99998
1260	GLOBAL	Cartesian	0.00000	0.00000	1.34376	No	0.00000
1261	GLOBAL	Cartesian	0.11765	0.00000	1.34376	No	0.11765



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 358 di 416
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1262	GLOBAL	Cartesian	0.23529	0.00000	1.34376	No	0.23529
1263	GLOBAL	Cartesian	0.35294	0.00000	1.34376	No	0.35294
1264	GLOBAL	Cartesian	0.47059	0.00000	1.34376	No	0.47059
1265	GLOBAL	Cartesian	0.58824	0.00000	1.34376	No	0.58824
1266	GLOBAL	Cartesian	0.70588	0.00000	1.34376	No	0.70588
1267	GLOBAL	Cartesian	0.82353	0.00000	1.34376	No	0.82353
1268	GLOBAL	Cartesian	0.94118	0.00000	1.34376	No	0.94118
1269	GLOBAL	Cartesian	1.05882	0.00000	1.34376	No	1.05882
1270	GLOBAL	Cartesian	1.17647	0.00000	1.34376	No	1.17647
1271	GLOBAL	Cartesian	1.29412	0.00000	1.34376	No	1.29412
1272	GLOBAL	Cartesian	1.41176	0.00000	1.34376	No	1.41176
1273	GLOBAL	Cartesian	1.52941	0.00000	1.34376	No	1.52941
1274	GLOBAL	Cartesian	1.64706	0.00000	1.34376	No	1.64706
1275	GLOBAL	Cartesian	1.76471	0.00000	1.34376	No	1.76471
1276	GLOBAL	Cartesian	1.88235	0.00000	1.34376	No	1.88235
1277	GLOBAL	Cartesian	2.00000	0.00000	1.34376	No	2.00000
1278	GLOBAL	Cartesian	2.11765	0.00000	1.34376	No	2.11765
1279	GLOBAL	Cartesian	2.23529	0.00000	1.34376	No	2.23529
1280	GLOBAL	Cartesian	2.35294	0.00000	1.34376	No	2.35294
1281	GLOBAL	Cartesian	2.47059	0.00000	1.34376	No	2.47059
1282	GLOBAL	Cartesian	2.58824	0.00000	1.34376	No	2.58824
1283	GLOBAL	Cartesian	2.70588	0.00000	1.34376	No	2.70588
1284	GLOBAL	Cartesian	2.82353	0.00000	1.34376	No	2.82353
1285	GLOBAL	Cartesian	2.99998	0.00000	1.34376	No	2.99998
1295	GLOBAL	Cartesian	0.00000	0.00000	1.20939	No	0.00000
1296	GLOBAL	Cartesian	0.11765	0.00000	1.20939	No	0.11765
1297	GLOBAL	Cartesian	0.23529	0.00000	1.20939	No	0.23529
1298	GLOBAL	Cartesian	0.35294	0.00000	1.20939	No	0.35294
1299	GLOBAL	Cartesian	0.47059	0.00000	1.20939	No	0.47059
1300	GLOBAL	Cartesian	0.58824	0.00000	1.20939	No	0.58824
1301	GLOBAL	Cartesian	0.70588	0.00000	1.20939	No	0.70588
1302	GLOBAL	Cartesian	0.82353	0.00000	1.20939	No	0.82353
1303	GLOBAL	Cartesian	0.94118	0.00000	1.20939	No	0.94118
1304	GLOBAL	Cartesian	1.05882	0.00000	1.20939	No	1.05882
1305	GLOBAL	Cartesian	1.17647	0.00000	1.20939	No	1.17647
1306	GLOBAL	Cartesian	1.29412	0.00000	1.20939	No	1.29412
1307	GLOBAL	Cartesian	1.41176	0.00000	1.20939	No	1.41176
1308	GLOBAL	Cartesian	1.52941	0.00000	1.20939	No	1.52941
1309	GLOBAL	Cartesian	1.64706	0.00000	1.20939	No	1.64706
1310	GLOBAL	Cartesian	1.76471	0.00000	1.20939	No	1.76471
1311	GLOBAL	Cartesian	1.88235	0.00000	1.20939	No	1.88235
1312	GLOBAL	Cartesian	2.00000	0.00000	1.20939	No	2.00000
1313	GLOBAL	Cartesian	2.11765	0.00000	1.20939	No	2.11765
1314	GLOBAL	Cartesian	2.23529	0.00000	1.20939	No	2.23529
1315	GLOBAL	Cartesian	2.35294	0.00000	1.20939	No	2.35294
1316	GLOBAL	Cartesian	2.47059	0.00000	1.20939	No	2.47059
1317	GLOBAL	Cartesian	2.58824	0.00000	1.20939	No	2.58824
1318	GLOBAL	Cartesian	2.70588	0.00000	1.20939	No	2.70588
1319	GLOBAL	Cartesian	2.82353	0.00000	1.20939	No	2.82353
1320	GLOBAL	Cartesian	2.99998	0.00000	1.20939	No	2.99998
1330	GLOBAL	Cartesian	0.00000	0.00000	1.07501	No	0.00000
1331	GLOBAL	Cartesian	0.11765	0.00000	1.07501	No	0.11765
1332	GLOBAL	Cartesian	0.23529	0.00000	1.07501	No	0.23529
1333	GLOBAL	Cartesian	0.35294	0.00000	1.07501	No	0.35294
1334	GLOBAL	Cartesian	0.47059	0.00000	1.07501	No	0.47059
1335	GLOBAL	Cartesian	0.58824	0.00000	1.07501	No	0.58824
1336	GLOBAL	Cartesian	0.70588	0.00000	1.07501	No	0.70588
1337	GLOBAL	Cartesian	0.82353	0.00000	1.07501	No	0.82353
1338	GLOBAL	Cartesian	0.94118	0.00000	1.07501	No	0.94118
1339	GLOBAL	Cartesian	1.05882	0.00000	1.07501	No	1.05882
1340	GLOBAL	Cartesian	1.17647	0.00000	1.07501	No	1.17647
1341	GLOBAL	Cartesian	1.29412	0.00000	1.07501	No	1.29412
1342	GLOBAL	Cartesian	1.41176	0.00000	1.07501	No	1.41176
1343	GLOBAL	Cartesian	1.52941	0.00000	1.07501	No	1.52941
1344	GLOBAL	Cartesian	1.64706	0.00000	1.07501	No	1.64706
1345	GLOBAL	Cartesian	1.76471	0.00000	1.07501	No	1.76471
1346	GLOBAL	Cartesian	1.88235	0.00000	1.07501	No	1.88235
1347	GLOBAL	Cartesian	2.00000	0.00000	1.07501	No	2.00000
1348	GLOBAL	Cartesian	2.11765	0.00000	1.07501	No	2.11765
1349	GLOBAL	Cartesian	2.23529	0.00000	1.07501	No	2.23529
1350	GLOBAL	Cartesian	2.35294	0.00000	1.07501	No	2.35294
1351	GLOBAL	Cartesian	2.47059	0.00000	1.07501	No	2.47059
1352	GLOBAL	Cartesian	2.58824	0.00000	1.07501	No	2.58824
1353	GLOBAL	Cartesian	2.70588	0.00000	1.07501	No	2.70588
1354	GLOBAL	Cartesian	2.82353	0.00000	1.07501	No	2.82353
1355	GLOBAL	Cartesian	2.99998	0.00000	1.07501	No	2.99998
1365	GLOBAL	Cartesian	0.00000	0.00000	0.94064	No	0.00000
1366	GLOBAL	Cartesian	0.11765	0.00000	0.94064	No	0.11765

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 359 di 416
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1367	GLOBAL	Cartesian	0.23529	0.00000	0.94064	No	0.23529
1368	GLOBAL	Cartesian	0.35294	0.00000	0.94064	No	0.35294
1369	GLOBAL	Cartesian	0.47059	0.00000	0.94064	No	0.47059
1370	GLOBAL	Cartesian	0.58824	0.00000	0.94064	No	0.58824
1371	GLOBAL	Cartesian	0.70588	0.00000	0.94064	No	0.70588
1372	GLOBAL	Cartesian	0.82353	0.00000	0.94064	No	0.82353
1373	GLOBAL	Cartesian	0.94118	0.00000	0.94064	No	0.94118
1374	GLOBAL	Cartesian	1.05882	0.00000	0.94064	No	1.05882
1375	GLOBAL	Cartesian	1.17647	0.00000	0.94064	No	1.17647
1376	GLOBAL	Cartesian	1.29412	0.00000	0.94064	No	1.29412
1377	GLOBAL	Cartesian	1.41176	0.00000	0.94064	No	1.41176
1378	GLOBAL	Cartesian	1.52941	0.00000	0.94064	No	1.52941
1379	GLOBAL	Cartesian	1.64706	0.00000	0.94064	No	1.64706
1380	GLOBAL	Cartesian	1.76471	0.00000	0.94064	No	1.76471
1381	GLOBAL	Cartesian	1.88235	0.00000	0.94064	No	1.88235
1382	GLOBAL	Cartesian	2.00000	0.00000	0.94064	No	2.00000
1383	GLOBAL	Cartesian	2.11765	0.00000	0.94064	No	2.11765
1384	GLOBAL	Cartesian	2.23529	0.00000	0.94064	No	2.23529
1385	GLOBAL	Cartesian	2.35294	0.00000	0.94064	No	2.35294
1386	GLOBAL	Cartesian	2.47059	0.00000	0.94064	No	2.47059
1387	GLOBAL	Cartesian	2.58824	0.00000	0.94064	No	2.58824
1388	GLOBAL	Cartesian	2.70588	0.00000	0.94064	No	2.70588
1389	GLOBAL	Cartesian	2.82353	0.00000	0.94064	No	2.82353
1390	GLOBAL	Cartesian	2.99998	0.00000	0.94064	No	2.99998
1400	GLOBAL	Cartesian	0.00000	0.00000	0.80626	No	0.00000
1401	GLOBAL	Cartesian	0.11765	0.00000	0.80626	No	0.11765
1402	GLOBAL	Cartesian	0.23529	0.00000	0.80626	No	0.23529
1403	GLOBAL	Cartesian	0.35294	0.00000	0.80626	No	0.35294
1404	GLOBAL	Cartesian	0.47059	0.00000	0.80626	No	0.47059
1405	GLOBAL	Cartesian	0.58824	0.00000	0.80626	No	0.58824
1406	GLOBAL	Cartesian	0.70588	0.00000	0.80626	No	0.70588
1407	GLOBAL	Cartesian	0.82353	0.00000	0.80626	No	0.82353
1408	GLOBAL	Cartesian	0.94118	0.00000	0.80626	No	0.94118
1409	GLOBAL	Cartesian	1.05882	0.00000	0.80626	No	1.05882
1410	GLOBAL	Cartesian	1.17647	0.00000	0.80626	No	1.17647
1411	GLOBAL	Cartesian	1.29412	0.00000	0.80626	No	1.29412
1412	GLOBAL	Cartesian	1.41176	0.00000	0.80626	No	1.41176
1413	GLOBAL	Cartesian	1.52941	0.00000	0.80626	No	1.52941
1414	GLOBAL	Cartesian	1.64706	0.00000	0.80626	No	1.64706
1415	GLOBAL	Cartesian	1.76471	0.00000	0.80626	No	1.76471
1416	GLOBAL	Cartesian	1.88235	0.00000	0.80626	No	1.88235
1417	GLOBAL	Cartesian	2.00000	0.00000	0.80626	No	2.00000
1418	GLOBAL	Cartesian	2.11765	0.00000	0.80626	No	2.11765
1419	GLOBAL	Cartesian	2.23529	0.00000	0.80626	No	2.23529
1420	GLOBAL	Cartesian	2.35294	0.00000	0.80626	No	2.35294
1421	GLOBAL	Cartesian	2.47059	0.00000	0.80626	No	2.47059
1422	GLOBAL	Cartesian	2.58824	0.00000	0.80626	No	2.58824
1423	GLOBAL	Cartesian	2.70588	0.00000	0.80626	No	2.70588
1424	GLOBAL	Cartesian	2.82353	0.00000	0.80626	No	2.82353
1425	GLOBAL	Cartesian	2.99998	0.00000	0.80626	No	2.99998
1435	GLOBAL	Cartesian	0.00000	0.00000	0.67188	No	0.00000
1436	GLOBAL	Cartesian	0.11765	0.00000	0.67188	No	0.11765
1437	GLOBAL	Cartesian	0.23529	0.00000	0.67188	No	0.23529
1438	GLOBAL	Cartesian	0.35294	0.00000	0.67188	No	0.35294
1439	GLOBAL	Cartesian	0.47059	0.00000	0.67188	No	0.47059
1440	GLOBAL	Cartesian	0.58824	0.00000	0.67188	No	0.58824
1441	GLOBAL	Cartesian	0.70588	0.00000	0.67188	No	0.70588
1442	GLOBAL	Cartesian	0.82353	0.00000	0.67188	No	0.82353
1443	GLOBAL	Cartesian	0.94118	0.00000	0.67188	No	0.94118
1444	GLOBAL	Cartesian	1.05882	0.00000	0.67188	No	1.05882
1445	GLOBAL	Cartesian	1.17647	0.00000	0.67188	No	1.17647
1446	GLOBAL	Cartesian	1.29412	0.00000	0.67188	No	1.29412
1447	GLOBAL	Cartesian	1.41176	0.00000	0.67188	No	1.41176
1448	GLOBAL	Cartesian	1.52941	0.00000	0.67188	No	1.52941
1449	GLOBAL	Cartesian	1.64706	0.00000	0.67188	No	1.64706
1450	GLOBAL	Cartesian	1.76471	0.00000	0.67188	No	1.76471
1451	GLOBAL	Cartesian	1.88235	0.00000	0.67188	No	1.88235
1452	GLOBAL	Cartesian	2.00000	0.00000	0.67188	No	2.00000
1453	GLOBAL	Cartesian	2.11765	0.00000	0.67188	No	2.11765
1454	GLOBAL	Cartesian	2.23529	0.00000	0.67188	No	2.23529
1455	GLOBAL	Cartesian	2.35294	0.00000	0.67188	No	2.35294
1456	GLOBAL	Cartesian	2.47059	0.00000	0.67188	No	2.47059
1457	GLOBAL	Cartesian	2.58824	0.00000	0.67188	No	2.58824
1458	GLOBAL	Cartesian	2.70588	0.00000	0.67188	No	2.70588
1459	GLOBAL	Cartesian	2.82353	0.00000	0.67188	No	2.82353
1460	GLOBAL	Cartesian	2.99998	0.00000	0.67188	No	2.99998
1470	GLOBAL	Cartesian	0.00000	0.00000	0.53751	No	0.00000
1471	GLOBAL	Cartesian	0.11765	0.00000	0.53751	No	0.11765

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 360 di 416
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1472	GLOBAL	Cartesian	0.23529	0.00000	0.53751	No	0.23529
1473	GLOBAL	Cartesian	0.35294	0.00000	0.53751	No	0.35294
1474	GLOBAL	Cartesian	0.47059	0.00000	0.53751	No	0.47059
1475	GLOBAL	Cartesian	0.58824	0.00000	0.53751	No	0.58824
1476	GLOBAL	Cartesian	0.70588	0.00000	0.53751	No	0.70588
1477	GLOBAL	Cartesian	0.82353	0.00000	0.53751	No	0.82353
1478	GLOBAL	Cartesian	0.94118	0.00000	0.53751	No	0.94118
1479	GLOBAL	Cartesian	1.05882	0.00000	0.53751	No	1.05882
1480	GLOBAL	Cartesian	1.17647	0.00000	0.53751	No	1.17647
1481	GLOBAL	Cartesian	1.29412	0.00000	0.53751	No	1.29412
1482	GLOBAL	Cartesian	1.41176	0.00000	0.53751	No	1.41176
1483	GLOBAL	Cartesian	1.52941	0.00000	0.53751	No	1.52941
1484	GLOBAL	Cartesian	1.64706	0.00000	0.53751	No	1.64706
1485	GLOBAL	Cartesian	1.76471	0.00000	0.53751	No	1.76471
1486	GLOBAL	Cartesian	1.88235	0.00000	0.53751	No	1.88235
1487	GLOBAL	Cartesian	2.00000	0.00000	0.53751	No	2.00000
1488	GLOBAL	Cartesian	2.11765	0.00000	0.53751	No	2.11765
1489	GLOBAL	Cartesian	2.23529	0.00000	0.53751	No	2.23529
1490	GLOBAL	Cartesian	2.35294	0.00000	0.53751	No	2.35294
1491	GLOBAL	Cartesian	2.47059	0.00000	0.53751	No	2.47059
1492	GLOBAL	Cartesian	2.58824	0.00000	0.53751	No	2.58824
1493	GLOBAL	Cartesian	2.70588	0.00000	0.53751	No	2.70588
1494	GLOBAL	Cartesian	2.82353	0.00000	0.53751	No	2.82353
1495	GLOBAL	Cartesian	2.99998	0.00000	0.53751	No	2.99998
1505	GLOBAL	Cartesian	0.00000	0.00000	0.40313	No	0.00000
1506	GLOBAL	Cartesian	0.11765	0.00000	0.40313	No	0.11765
1507	GLOBAL	Cartesian	0.23529	0.00000	0.40313	No	0.23529
1508	GLOBAL	Cartesian	0.35294	0.00000	0.40313	No	0.35294
1509	GLOBAL	Cartesian	0.47059	0.00000	0.40313	No	0.47059
1510	GLOBAL	Cartesian	0.58824	0.00000	0.40313	No	0.58824
1511	GLOBAL	Cartesian	0.70588	0.00000	0.40313	No	0.70588
1512	GLOBAL	Cartesian	0.82353	0.00000	0.40313	No	0.82353
1513	GLOBAL	Cartesian	0.94118	0.00000	0.40313	No	0.94118
1514	GLOBAL	Cartesian	1.05882	0.00000	0.40313	No	1.05882
1515	GLOBAL	Cartesian	1.17647	0.00000	0.40313	No	1.17647
1516	GLOBAL	Cartesian	1.29412	0.00000	0.40313	No	1.29412
1517	GLOBAL	Cartesian	1.41176	0.00000	0.40313	No	1.41176
1518	GLOBAL	Cartesian	1.52941	0.00000	0.40313	No	1.52941
1519	GLOBAL	Cartesian	1.64706	0.00000	0.40313	No	1.64706
1520	GLOBAL	Cartesian	1.76471	0.00000	0.40313	No	1.76471
1521	GLOBAL	Cartesian	1.88235	0.00000	0.40313	No	1.88235
1522	GLOBAL	Cartesian	2.00000	0.00000	0.40313	No	2.00000
1523	GLOBAL	Cartesian	2.11765	0.00000	0.40313	No	2.11765
1524	GLOBAL	Cartesian	2.23529	0.00000	0.40313	No	2.23529
1525	GLOBAL	Cartesian	2.35294	0.00000	0.40313	No	2.35294
1526	GLOBAL	Cartesian	2.47059	0.00000	0.40313	No	2.47059
1527	GLOBAL	Cartesian	2.58824	0.00000	0.40313	No	2.58824
1528	GLOBAL	Cartesian	2.70588	0.00000	0.40313	No	2.70588
1529	GLOBAL	Cartesian	2.82353	0.00000	0.40313	No	2.82353
1530	GLOBAL	Cartesian	2.99998	0.00000	0.40313	No	2.99998
1540	GLOBAL	Cartesian	0.00000	0.00000	0.26875	No	0.00000
1541	GLOBAL	Cartesian	0.11765	0.00000	0.26875	No	0.11765
1542	GLOBAL	Cartesian	0.23529	0.00000	0.26875	No	0.23529
1543	GLOBAL	Cartesian	0.35294	0.00000	0.26875	No	0.35294
1544	GLOBAL	Cartesian	0.47059	0.00000	0.26875	No	0.47059
1545	GLOBAL	Cartesian	0.58824	0.00000	0.26875	No	0.58824
1546	GLOBAL	Cartesian	0.70588	0.00000	0.26875	No	0.70588
1547	GLOBAL	Cartesian	0.82353	0.00000	0.26875	No	0.82353
1548	GLOBAL	Cartesian	0.94118	0.00000	0.26875	No	0.94118
1549	GLOBAL	Cartesian	1.05882	0.00000	0.26875	No	1.05882
1550	GLOBAL	Cartesian	1.17647	0.00000	0.26875	No	1.17647
1551	GLOBAL	Cartesian	1.29412	0.00000	0.26875	No	1.29412
1552	GLOBAL	Cartesian	1.41176	0.00000	0.26875	No	1.41176
1553	GLOBAL	Cartesian	1.52941	0.00000	0.26875	No	1.52941
1554	GLOBAL	Cartesian	1.64706	0.00000	0.26875	No	1.64706
1555	GLOBAL	Cartesian	1.76471	0.00000	0.26875	No	1.76471
1556	GLOBAL	Cartesian	1.88235	0.00000	0.26875	No	1.88235
1557	GLOBAL	Cartesian	2.00000	0.00000	0.26875	No	2.00000
1558	GLOBAL	Cartesian	2.11765	0.00000	0.26875	No	2.11765
1559	GLOBAL	Cartesian	2.23529	0.00000	0.26875	No	2.23529
1560	GLOBAL	Cartesian	2.35294	0.00000	0.26875	No	2.35294
1561	GLOBAL	Cartesian	2.47059	0.00000	0.26875	No	2.47059
1562	GLOBAL	Cartesian	2.58824	0.00000	0.26875	No	2.58824
1563	GLOBAL	Cartesian	2.70588	0.00000	0.26875	No	2.70588
1564	GLOBAL	Cartesian	2.82353	0.00000	0.26875	No	2.82353
1565	GLOBAL	Cartesian	2.99998	0.00000	0.26875	No	2.99998
1575	GLOBAL	Cartesian	0.00000	0.00000	0.13438	No	0.00000
1576	GLOBAL	Cartesian	0.11765	0.00000	0.13438	No	0.11765



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 361 di 416
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1577	GLOBAL	Cartesian	0.23529	0.00000	0.13438	No	0.23529
1578	GLOBAL	Cartesian	0.35294	0.00000	0.13438	No	0.35294
1579	GLOBAL	Cartesian	0.47059	0.00000	0.13438	No	0.47059
1580	GLOBAL	Cartesian	0.58824	0.00000	0.13438	No	0.58824
1581	GLOBAL	Cartesian	0.70588	0.00000	0.13438	No	0.70588
1582	GLOBAL	Cartesian	0.82353	0.00000	0.13438	No	0.82353
1583	GLOBAL	Cartesian	0.94118	0.00000	0.13438	No	0.94118
1584	GLOBAL	Cartesian	1.05882	0.00000	0.13438	No	1.05882
1585	GLOBAL	Cartesian	1.17647	0.00000	0.13438	No	1.17647
1586	GLOBAL	Cartesian	1.29412	0.00000	0.13438	No	1.29412
1587	GLOBAL	Cartesian	1.41176	0.00000	0.13438	No	1.41176
1588	GLOBAL	Cartesian	1.52941	0.00000	0.13438	No	1.52941
1589	GLOBAL	Cartesian	1.64706	0.00000	0.13438	No	1.64706
1590	GLOBAL	Cartesian	1.76471	0.00000	0.13438	No	1.76471
1591	GLOBAL	Cartesian	1.88235	0.00000	0.13438	No	1.88235
1592	GLOBAL	Cartesian	2.00000	0.00000	0.13438	No	2.00000
1593	GLOBAL	Cartesian	2.11765	0.00000	0.13438	No	2.11765
1594	GLOBAL	Cartesian	2.23529	0.00000	0.13438	No	2.23529
1595	GLOBAL	Cartesian	2.35294	0.00000	0.13438	No	2.35294
1596	GLOBAL	Cartesian	2.47059	0.00000	0.13438	No	2.47059
1597	GLOBAL	Cartesian	2.58824	0.00000	0.13438	No	2.58824
1598	GLOBAL	Cartesian	2.70588	0.00000	0.13438	No	2.70588
1599	GLOBAL	Cartesian	2.82353	0.00000	0.13438	No	2.82353
1600	GLOBAL	Cartesian	2.99998	0.00000	0.13438	No	2.99998
1610	GLOBAL	Cartesian	0.11765	0.00000	0.00000	No	0.11765
1611	GLOBAL	Cartesian	0.23529	0.00000	0.00000	No	0.23529
1612	GLOBAL	Cartesian	0.35294	0.00000	0.00000	No	0.35294
1613	GLOBAL	Cartesian	0.47059	0.00000	0.00000	No	0.47059
1614	GLOBAL	Cartesian	0.58824	0.00000	0.00000	No	0.58824
1615	GLOBAL	Cartesian	0.70588	0.00000	0.00000	No	0.70588
1616	GLOBAL	Cartesian	0.82353	0.00000	0.00000	No	0.82353
1617	GLOBAL	Cartesian	0.94118	0.00000	0.00000	No	0.94118
1618	GLOBAL	Cartesian	1.05882	0.00000	0.00000	No	1.05882
1619	GLOBAL	Cartesian	1.17647	0.00000	0.00000	No	1.17647
1620	GLOBAL	Cartesian	1.29412	0.00000	0.00000	No	1.29412
1621	GLOBAL	Cartesian	1.41176	0.00000	0.00000	No	1.41176
1622	GLOBAL	Cartesian	1.52941	0.00000	0.00000	No	1.52941
1623	GLOBAL	Cartesian	1.64706	0.00000	0.00000	No	1.64706
1624	GLOBAL	Cartesian	1.76471	0.00000	0.00000	No	1.76471
1625	GLOBAL	Cartesian	1.88235	0.00000	0.00000	No	1.88235
1626	GLOBAL	Cartesian	2.00000	0.00000	0.00000	No	2.00000
1627	GLOBAL	Cartesian	2.11765	0.00000	0.00000	No	2.11765
1628	GLOBAL	Cartesian	2.23529	0.00000	0.00000	No	2.23529
1629	GLOBAL	Cartesian	2.35294	0.00000	0.00000	No	2.35294
1630	GLOBAL	Cartesian	2.47059	0.00000	0.00000	No	2.47059
1631	GLOBAL	Cartesian	2.58824	0.00000	0.00000	No	2.58824
1632	GLOBAL	Cartesian	2.70588	0.00000	0.00000	No	2.70588
1633	GLOBAL	Cartesian	2.82353	0.00000	0.00000	No	2.82353
1634	GLOBAL	Cartesian	2.99998	0.00000	0.00000	No	2.99998

Table: Joint Coordinates, Part 2 of 2

Joint	GlobalY m	GlobalZ m	GUID
1	0.00000	0.00000	
2	0.00000	2.55000	
3	0.00000	2.80000	
4	0.00000	3.05000	
5	0.00000	3.40000	
6	0.00000	2.55000	
7	0.00000	2.80000	
8	0.00000	3.05000	
9	0.00000	3.40000	
10	0.00000	2.55000	
11	0.00000	2.80000	
12	0.00000	3.05000	
13	0.00000	3.40000	
14	0.00000	2.55000	
15	0.00000	2.80000	
16	0.00000	3.05000	
17	0.00000	3.40000	
18	0.00000	2.55000	
19	0.00000	2.80000	
20	0.00000	3.05000	
21	0.00000	3.40000	
22	0.00000	2.55000	

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc. REL	N.progr. 02	REV. A	Pag.di Pag. 362 di 416
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23	0.00000	2.80000
24	0.00000	3.05000
25	0.00000	3.40000
26	0.00000	2.55000
27	0.00000	2.80000
28	0.00000	3.05000
29	0.00000	3.40000
30	0.00000	2.55000
31	0.00000	2.80000
32	0.00000	3.05000
33	0.00000	3.40000
34	0.00000	2.55000
35	0.00000	2.80000
36	0.00000	3.05000
37	0.00000	3.40000
38	0.00000	2.55000
39	0.00000	2.80000
40	0.00000	3.05000
41	0.00000	3.40000
42	0.00000	2.55000
43	0.00000	2.80000
44	0.00000	3.05000
45	0.00000	3.40000
46	0.00000	2.55000
47	0.00000	2.80000
48	0.00000	3.05000
49	0.00000	3.40000
50	0.00000	2.55000
51	0.00000	2.80000
52	0.00000	3.05000
53	0.00000	3.40000
54	0.00000	2.55000
55	0.00000	2.80000
56	0.00000	3.05000
57	0.00000	3.40000
58	0.00000	2.55000
59	0.00000	2.80000
60	0.00000	3.05000
61	0.00000	3.40000
62	0.00000	2.55000
63	0.00000	2.80000
64	0.00000	3.05000
65	0.00000	3.40000
66	0.00000	2.55000
67	0.00000	2.80000
68	0.00000	3.05000
69	0.00000	3.40000
70	0.00000	2.55000
71	0.00000	2.80000
72	0.00000	3.05000
73	0.00000	3.40000
74	0.00000	2.55000
75	0.00000	2.80000
76	0.00000	3.05000
77	0.00000	3.40000
78	0.00000	2.55000
79	0.00000	2.80000
80	0.00000	3.05000
81	0.00000	3.40000
82	0.00000	2.55000
83	0.00000	2.80000
84	0.00000	3.05000
85	0.00000	3.40000
86	0.00000	2.55000
87	0.00000	2.80000
88	0.00000	3.05000
89	0.00000	3.40000
90	0.00000	2.55000
91	0.00000	2.80000
92	0.00000	3.05000
93	0.00000	3.40000
94	0.00000	2.55000
95	0.00000	2.80000
96	0.00000	3.05000
97	0.00000	3.40000
98	0.00000	2.55000
99	0.00000	2.80000
100	0.00000	3.05000

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 363 di 416
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101	0.00000	3.40000
102	0.00000	2.55000
103	0.00000	2.80000
104	0.00000	3.05000
105	0.00000	3.40000
231	0.00000	2.42500
232	0.00000	2.42500
233	0.00000	2.67500
234	0.00000	2.67500
235	0.00000	2.92500
236	0.00000	2.92500
237	0.00000	3.17500
238	0.00000	3.17500
239	0.00000	2.42500
240	0.00000	2.67500
241	0.00000	2.92500
242	0.00000	3.17500
243	0.00000	2.42500
244	0.00000	2.67500
245	0.00000	2.92500
246	0.00000	3.17500
247	0.00000	2.42500
248	0.00000	2.67500
249	0.00000	2.92500
250	0.00000	3.17500
251	0.00000	2.42500
252	0.00000	2.67500
253	0.00000	2.92500
254	0.00000	3.17500
255	0.00000	2.42500
256	0.00000	2.67500
257	0.00000	2.92500
258	0.00000	3.17500
259	0.00000	2.42500
260	0.00000	2.67500
261	0.00000	2.92500
262	0.00000	3.17500
263	0.00000	2.42500
264	0.00000	2.67500
265	0.00000	2.92500
266	0.00000	3.17500
267	0.00000	2.42500
268	0.00000	2.67500
269	0.00000	2.92500
270	0.00000	3.17500
271	0.00000	2.42500
272	0.00000	2.67500
273	0.00000	2.92500
274	0.00000	3.17500
275	0.00000	2.42500
276	0.00000	2.67500
277	0.00000	2.92500
278	0.00000	3.17500
279	0.00000	2.42500
280	0.00000	2.67500
281	0.00000	2.92500
282	0.00000	3.17500
283	0.00000	2.42500
284	0.00000	2.67500
285	0.00000	2.92500
286	0.00000	3.17500
287	0.00000	2.42500
288	0.00000	2.67500
289	0.00000	2.92500
290	0.00000	3.17500
291	0.00000	2.42500
292	0.00000	2.67500
293	0.00000	2.92500
294	0.00000	3.17500
295	0.00000	2.42500
296	0.00000	2.67500
297	0.00000	2.92500
298	0.00000	3.17500
299	0.00000	2.42500
300	0.00000	2.67500
301	0.00000	2.92500
302	0.00000	3.17500
303	0.00000	2.42500

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 364 di 416
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304	0.00000	2.67500
305	0.00000	2.92500
306	0.00000	3.17500
307	0.00000	2.42500
308	0.00000	2.67500
309	0.00000	2.92500
310	0.00000	3.17500
311	0.00000	2.42500
312	0.00000	2.67500
313	0.00000	2.92500
314	0.00000	3.17500
315	0.00000	2.42500
316	0.00000	2.67500
317	0.00000	2.92500
318	0.00000	3.17500
319	0.00000	2.42500
320	0.00000	2.67500
321	0.00000	2.92500
322	0.00000	3.17500
323	0.00000	2.42500
324	0.00000	2.67500
325	0.00000	2.92500
326	0.00000	3.17500
327	0.00000	2.42500
328	0.00000	2.67500
329	0.00000	2.92500
330	0.00000	3.17500
331	0.00000	2.42500
332	0.00000	2.67500
333	0.00000	2.92500
334	0.00000	3.17500
335	0.00000	3.28750
336	0.00000	3.28750
337	0.00000	3.28750
338	0.00000	3.28750
339	0.00000	3.28750
340	0.00000	3.28750
341	0.00000	3.28750
342	0.00000	3.28750
343	0.00000	3.28750
344	0.00000	3.28750
345	0.00000	3.28750
346	0.00000	3.28750
347	0.00000	3.28750
348	0.00000	3.28750
349	0.00000	3.28750
350	0.00000	3.28750
351	0.00000	3.28750
352	0.00000	3.28750
353	0.00000	3.28750
354	0.00000	3.28750
355	0.00000	3.28750
356	0.00000	3.28750
357	0.00000	3.28750
358	0.00000	3.28750
359	0.00000	3.28750
360	0.00000	3.28750
1015	0.00000	2.30000
1016	0.00000	2.30000
1017	0.00000	2.30000
1018	0.00000	2.30000
1019	0.00000	2.30000
1020	0.00000	2.30000
1021	0.00000	2.30000
1022	0.00000	2.30000
1023	0.00000	2.30000
1024	0.00000	2.30000
1025	0.00000	2.30000
1026	0.00000	2.30000
1027	0.00000	2.30000
1028	0.00000	2.30000
1029	0.00000	2.30000
1030	0.00000	2.30000
1031	0.00000	2.30000
1032	0.00000	2.30000
1033	0.00000	2.30000
1034	0.00000	2.30000
1035	0.00000	2.30000

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 365 di 416
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1036	0.00000	2.30000
1037	0.00000	2.30000
1038	0.00000	2.30000
1039	0.00000	2.30000
1040	0.00000	2.30000
1050	0.00000	2.15002
1051	0.00000	2.15002
1052	0.00000	2.15002
1053	0.00000	2.15002
1054	0.00000	2.15002
1055	0.00000	2.15002
1056	0.00000	2.15002
1057	0.00000	2.15002
1058	0.00000	2.15002
1059	0.00000	2.15002
1060	0.00000	2.15002
1061	0.00000	2.15002
1062	0.00000	2.15002
1063	0.00000	2.15002
1064	0.00000	2.15002
1065	0.00000	2.15002
1066	0.00000	2.15002
1067	0.00000	2.15002
1068	0.00000	2.15002
1069	0.00000	2.15002
1070	0.00000	2.15002
1071	0.00000	2.15002
1072	0.00000	2.15002
1073	0.00000	2.15002
1074	0.00000	2.15002
1075	0.00000	2.15002
1085	0.00000	2.01565
1086	0.00000	2.01565
1087	0.00000	2.01565
1088	0.00000	2.01565
1089	0.00000	2.01565
1090	0.00000	2.01565
1091	0.00000	2.01565
1092	0.00000	2.01565
1093	0.00000	2.01565
1094	0.00000	2.01565
1095	0.00000	2.01565
1096	0.00000	2.01565
1097	0.00000	2.01565
1098	0.00000	2.01565
1099	0.00000	2.01565
1100	0.00000	2.01565
1101	0.00000	2.01565
1102	0.00000	2.01565
1103	0.00000	2.01565
1104	0.00000	2.01565
1105	0.00000	2.01565
1106	0.00000	2.01565
1107	0.00000	2.01565
1108	0.00000	2.01565
1109	0.00000	2.01565
1110	0.00000	2.01565
1120	0.00000	1.88127
1121	0.00000	1.88127
1122	0.00000	1.88127
1123	0.00000	1.88127
1124	0.00000	1.88127
1125	0.00000	1.88127
1126	0.00000	1.88127
1127	0.00000	1.88127
1128	0.00000	1.88127
1129	0.00000	1.88127
1130	0.00000	1.88127
1131	0.00000	1.88127
1132	0.00000	1.88127
1133	0.00000	1.88127
1134	0.00000	1.88127
1135	0.00000	1.88127
1136	0.00000	1.88127
1137	0.00000	1.88127
1138	0.00000	1.88127
1139	0.00000	1.88127
1140	0.00000	1.88127



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 366 di 416
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1141	0.00000	1.88127
1142	0.00000	1.88127
1143	0.00000	1.88127
1144	0.00000	1.88127
1145	0.00000	1.88127
1155	0.00000	1.74689
1156	0.00000	1.74689
1157	0.00000	1.74689
1158	0.00000	1.74689
1159	0.00000	1.74689
1160	0.00000	1.74689
1161	0.00000	1.74689
1162	0.00000	1.74689
1163	0.00000	1.74689
1164	0.00000	1.74689
1165	0.00000	1.74689
1166	0.00000	1.74689
1167	0.00000	1.74689
1168	0.00000	1.74689
1169	0.00000	1.74689
1170	0.00000	1.74689
1171	0.00000	1.74689
1172	0.00000	1.74689
1173	0.00000	1.74689
1174	0.00000	1.74689
1175	0.00000	1.74689
1176	0.00000	1.74689
1177	0.00000	1.74689
1178	0.00000	1.74689
1179	0.00000	1.74689
1180	0.00000	1.74689
1190	0.00000	1.61252
1191	0.00000	1.61252
1192	0.00000	1.61252
1193	0.00000	1.61252
1194	0.00000	1.61252
1195	0.00000	1.61252
1196	0.00000	1.61252
1197	0.00000	1.61252
1198	0.00000	1.61252
1199	0.00000	1.61252
1200	0.00000	1.61252
1201	0.00000	1.61252
1202	0.00000	1.61252
1203	0.00000	1.61252
1204	0.00000	1.61252
1205	0.00000	1.61252
1206	0.00000	1.61252
1207	0.00000	1.61252
1208	0.00000	1.61252
1209	0.00000	1.61252
1210	0.00000	1.61252
1211	0.00000	1.61252
1212	0.00000	1.61252
1213	0.00000	1.61252
1214	0.00000	1.61252
1215	0.00000	1.61252
1225	0.00000	1.47814
1226	0.00000	1.47814
1227	0.00000	1.47814
1228	0.00000	1.47814
1229	0.00000	1.47814
1230	0.00000	1.47814
1231	0.00000	1.47814
1232	0.00000	1.47814
1233	0.00000	1.47814
1234	0.00000	1.47814
1235	0.00000	1.47814
1236	0.00000	1.47814
1237	0.00000	1.47814
1238	0.00000	1.47814
1239	0.00000	1.47814
1240	0.00000	1.47814
1241	0.00000	1.47814
1242	0.00000	1.47814
1243	0.00000	1.47814
1244	0.00000	1.47814
1245	0.00000	1.47814



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 367 di 416
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1246	0.00000	1.47814
1247	0.00000	1.47814
1248	0.00000	1.47814
1249	0.00000	1.47814
1250	0.00000	1.47814
1260	0.00000	1.34376
1261	0.00000	1.34376
1262	0.00000	1.34376
1263	0.00000	1.34376
1264	0.00000	1.34376
1265	0.00000	1.34376
1266	0.00000	1.34376
1267	0.00000	1.34376
1268	0.00000	1.34376
1269	0.00000	1.34376
1270	0.00000	1.34376
1271	0.00000	1.34376
1272	0.00000	1.34376
1273	0.00000	1.34376
1274	0.00000	1.34376
1275	0.00000	1.34376
1276	0.00000	1.34376
1277	0.00000	1.34376
1278	0.00000	1.34376
1279	0.00000	1.34376
1280	0.00000	1.34376
1281	0.00000	1.34376
1282	0.00000	1.34376
1283	0.00000	1.34376
1284	0.00000	1.34376
1285	0.00000	1.34376
1295	0.00000	1.20939
1296	0.00000	1.20939
1297	0.00000	1.20939
1298	0.00000	1.20939
1299	0.00000	1.20939
1300	0.00000	1.20939
1301	0.00000	1.20939
1302	0.00000	1.20939
1303	0.00000	1.20939
1304	0.00000	1.20939
1305	0.00000	1.20939
1306	0.00000	1.20939
1307	0.00000	1.20939
1308	0.00000	1.20939
1309	0.00000	1.20939
1310	0.00000	1.20939
1311	0.00000	1.20939
1312	0.00000	1.20939
1313	0.00000	1.20939
1314	0.00000	1.20939
1315	0.00000	1.20939
1316	0.00000	1.20939
1317	0.00000	1.20939
1318	0.00000	1.20939
1319	0.00000	1.20939
1320	0.00000	1.20939
1330	0.00000	1.07501
1331	0.00000	1.07501
1332	0.00000	1.07501
1333	0.00000	1.07501
1334	0.00000	1.07501
1335	0.00000	1.07501
1336	0.00000	1.07501
1337	0.00000	1.07501
1338	0.00000	1.07501
1339	0.00000	1.07501
1340	0.00000	1.07501
1341	0.00000	1.07501
1342	0.00000	1.07501
1343	0.00000	1.07501
1344	0.00000	1.07501
1345	0.00000	1.07501
1346	0.00000	1.07501
1347	0.00000	1.07501
1348	0.00000	1.07501
1349	0.00000	1.07501
1350	0.00000	1.07501



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera	Tratto	Settore	CEE	WBS	Id.doc.	N.progr.	REV.	Pag.di Pag.
L0703	211	E	11	CS19F0	REL	02	A	368 di 416

1351	0.00000	1.07501
1352	0.00000	1.07501
1353	0.00000	1.07501
1354	0.00000	1.07501
1355	0.00000	1.07501
1365	0.00000	0.94064
1366	0.00000	0.94064
1367	0.00000	0.94064
1368	0.00000	0.94064
1369	0.00000	0.94064
1370	0.00000	0.94064
1371	0.00000	0.94064
1372	0.00000	0.94064
1373	0.00000	0.94064
1374	0.00000	0.94064
1375	0.00000	0.94064
1376	0.00000	0.94064
1377	0.00000	0.94064
1378	0.00000	0.94064
1379	0.00000	0.94064
1380	0.00000	0.94064
1381	0.00000	0.94064
1382	0.00000	0.94064
1383	0.00000	0.94064
1384	0.00000	0.94064
1385	0.00000	0.94064
1386	0.00000	0.94064
1387	0.00000	0.94064
1388	0.00000	0.94064
1389	0.00000	0.94064
1390	0.00000	0.94064
1400	0.00000	0.80626
1401	0.00000	0.80626
1402	0.00000	0.80626
1403	0.00000	0.80626
1404	0.00000	0.80626
1405	0.00000	0.80626
1406	0.00000	0.80626
1407	0.00000	0.80626
1408	0.00000	0.80626
1409	0.00000	0.80626
1410	0.00000	0.80626
1411	0.00000	0.80626
1412	0.00000	0.80626
1413	0.00000	0.80626
1414	0.00000	0.80626
1415	0.00000	0.80626
1416	0.00000	0.80626
1417	0.00000	0.80626
1418	0.00000	0.80626
1419	0.00000	0.80626
1420	0.00000	0.80626
1421	0.00000	0.80626
1422	0.00000	0.80626
1423	0.00000	0.80626
1424	0.00000	0.80626
1425	0.00000	0.80626
1435	0.00000	0.67188
1436	0.00000	0.67188
1437	0.00000	0.67188
1438	0.00000	0.67188
1439	0.00000	0.67188
1440	0.00000	0.67188
1441	0.00000	0.67188
1442	0.00000	0.67188
1443	0.00000	0.67188
1444	0.00000	0.67188
1445	0.00000	0.67188
1446	0.00000	0.67188
1447	0.00000	0.67188
1448	0.00000	0.67188
1449	0.00000	0.67188
1450	0.00000	0.67188
1451	0.00000	0.67188
1452	0.00000	0.67188
1453	0.00000	0.67188
1454	0.00000	0.67188
1455	0.00000	0.67188



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera	Tratto	Settore	CEE	WBS	Id.doc.	N.progr.	REV.	Pag.di Pag.
L0703	211	E	11	CS19F0	REL	02	A	369 di 416

1456	0.00000	0.67188
1457	0.00000	0.67188
1458	0.00000	0.67188
1459	0.00000	0.67188
1460	0.00000	0.67188
1470	0.00000	0.53751
1471	0.00000	0.53751
1472	0.00000	0.53751
1473	0.00000	0.53751
1474	0.00000	0.53751
1475	0.00000	0.53751
1476	0.00000	0.53751
1477	0.00000	0.53751
1478	0.00000	0.53751
1479	0.00000	0.53751
1480	0.00000	0.53751
1481	0.00000	0.53751
1482	0.00000	0.53751
1483	0.00000	0.53751
1484	0.00000	0.53751
1485	0.00000	0.53751
1486	0.00000	0.53751
1487	0.00000	0.53751
1488	0.00000	0.53751
1489	0.00000	0.53751
1490	0.00000	0.53751
1491	0.00000	0.53751
1492	0.00000	0.53751
1493	0.00000	0.53751
1494	0.00000	0.53751
1495	0.00000	0.53751
1505	0.00000	0.40313
1506	0.00000	0.40313
1507	0.00000	0.40313
1508	0.00000	0.40313
1509	0.00000	0.40313
1510	0.00000	0.40313
1511	0.00000	0.40313
1512	0.00000	0.40313
1513	0.00000	0.40313
1514	0.00000	0.40313
1515	0.00000	0.40313
1516	0.00000	0.40313
1517	0.00000	0.40313
1518	0.00000	0.40313
1519	0.00000	0.40313
1520	0.00000	0.40313
1521	0.00000	0.40313
1522	0.00000	0.40313
1523	0.00000	0.40313
1524	0.00000	0.40313
1525	0.00000	0.40313
1526	0.00000	0.40313
1527	0.00000	0.40313
1528	0.00000	0.40313
1529	0.00000	0.40313
1530	0.00000	0.40313
1540	0.00000	0.26875
1541	0.00000	0.26875
1542	0.00000	0.26875
1543	0.00000	0.26875
1544	0.00000	0.26875
1545	0.00000	0.26875
1546	0.00000	0.26875
1547	0.00000	0.26875
1548	0.00000	0.26875
1549	0.00000	0.26875
1550	0.00000	0.26875
1551	0.00000	0.26875
1552	0.00000	0.26875
1553	0.00000	0.26875
1554	0.00000	0.26875
1555	0.00000	0.26875
1556	0.00000	0.26875
1557	0.00000	0.26875
1558	0.00000	0.26875
1559	0.00000	0.26875
1560	0.00000	0.26875



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera L0703	Tratto 211	Settore E	CEE 11	WBS CS19F0	Id.doc REL	N.progr. 02	REV. A	Pag.di Pag. 370 di 416
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1561	0.00000	0.26875
1562	0.00000	0.26875
1563	0.00000	0.26875
1564	0.00000	0.26875
1565	0.00000	0.26875
1575	0.00000	0.13438
1576	0.00000	0.13438
1577	0.00000	0.13438
1578	0.00000	0.13438
1579	0.00000	0.13438
1580	0.00000	0.13438
1581	0.00000	0.13438
1582	0.00000	0.13438
1583	0.00000	0.13438
1584	0.00000	0.13438
1585	0.00000	0.13438
1586	0.00000	0.13438
1587	0.00000	0.13438
1588	0.00000	0.13438
1589	0.00000	0.13438
1590	0.00000	0.13438
1591	0.00000	0.13438
1592	0.00000	0.13438
1593	0.00000	0.13438
1594	0.00000	0.13438
1595	0.00000	0.13438
1596	0.00000	0.13438
1597	0.00000	0.13438
1598	0.00000	0.13438
1599	0.00000	0.13438
1600	0.00000	0.13438
1610	0.00000	0.00000
1611	0.00000	0.00000
1612	0.00000	0.00000
1613	0.00000	0.00000
1614	0.00000	0.00000
1615	0.00000	0.00000
1616	0.00000	0.00000
1617	0.00000	0.00000
1618	0.00000	0.00000
1619	0.00000	0.00000
1620	0.00000	0.00000
1621	0.00000	0.00000
1622	0.00000	0.00000
1623	0.00000	0.00000
1624	0.00000	0.00000
1625	0.00000	0.00000
1626	0.00000	0.00000
1627	0.00000	0.00000
1628	0.00000	0.00000
1629	0.00000	0.00000
1630	0.00000	0.00000
1631	0.00000	0.00000
1632	0.00000	0.00000
1633	0.00000	0.00000
1634	0.00000	0.00000

Table: Joint Pattern Assignments

Joint	Pattern	Value
1	STATICA	28.980000
1	SISMICA	41.470000
1015	STATICA	9.384004
1015	SISMICA	19.439063
1016	STATICA	9.384004
1016	SISMICA	18.867325
1017	STATICA	9.384004
1017	SISMICA	18.295588
1018	STATICA	9.384004
1018	SISMICA	17.723851
1019	STATICA	9.384004
1019	SISMICA	17.152114
1020	STATICA	9.384004
1020	SISMICA	16.580377
1021	STATICA	9.384004



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera	Tratto	Settore	CEE	WBS	Id.doc	N.progr.	REV.	Pag.di Pag.
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1021	SISMICA	16.008640
1022	STATICA	9.384004
1022	SISMICA	15.436903
1023	STATICA	9.384004
1023	SISMICA	14.865165
1024	STATICA	9.384004
1024	SISMICA	14.293428
1025	STATICA	9.384004
1025	SISMICA	13.721691
1026	STATICA	9.384004
1026	SISMICA	13.149954
1027	STATICA	9.384004
1027	SISMICA	12.578217
1028	STATICA	9.384004
1028	SISMICA	12.006480
1029	STATICA	9.384004
1029	SISMICA	11.434743
1030	STATICA	9.384004
1030	SISMICA	10.863006
1031	STATICA	9.384004
1031	SISMICA	10.291268
1032	STATICA	9.384004
1032	SISMICA	9.719531
1033	STATICA	9.384004
1033	SISMICA	9.147794
1034	STATICA	9.384004
1034	SISMICA	8.576057
1035	STATICA	9.384004
1035	SISMICA	8.004320
1036	STATICA	9.384004
1036	SISMICA	7.432583
1037	STATICA	9.384004
1037	SISMICA	6.860846
1038	STATICA	9.384004
1038	SISMICA	6.289108
1039	STATICA	9.384004
1039	SISMICA	5.717371
1040	STATICA	9.384004
1040	SISMICA	5.145634
1050	STATICA	10.661803
1050	SISMICA	20.735000
1051	STATICA	10.661803
1051	SISMICA	20.125147
1052	STATICA	10.661803
1052	SISMICA	19.515294
1053	STATICA	10.661803
1053	SISMICA	18.905441
1054	STATICA	10.661803
1054	SISMICA	18.295588
1055	STATICA	10.661803
1055	SISMICA	17.685735
1056	STATICA	10.661803
1056	SISMICA	17.075882
1057	STATICA	10.661803
1057	SISMICA	16.466029
1058	STATICA	10.661803
1058	SISMICA	15.856176
1059	STATICA	10.661803
1059	SISMICA	15.246324
1060	STATICA	10.661803
1060	SISMICA	14.636471
1061	STATICA	10.661803
1061	SISMICA	14.026618
1062	STATICA	10.661803
1062	SISMICA	13.416765
1063	STATICA	10.661803
1063	SISMICA	12.806912
1064	STATICA	10.661803
1064	SISMICA	12.197059
1065	STATICA	10.661803
1065	SISMICA	11.587206
1066	STATICA	10.661803
1066	SISMICA	10.977353
1067	STATICA	10.661803
1067	SISMICA	10.367500
1068	STATICA	10.661803
1068	SISMICA	9.757647
1069	STATICA	10.661803



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera	Tratto	Settore	CEE	WBS	Id.doc	N.progr.	REV.	Pag.diPag.
L0703	211	E	11	CS19F0	REL	02	A	372 di 416

1069	SISMICA	9.147794
1070	STATICA	10.661803
1070	SISMICA	8.537941
1071	STATICA	10.661803
1071	SISMICA	7.928088
1072	STATICA	10.661803
1072	SISMICA	7.318235
1073	STATICA	10.661803
1073	SISMICA	6.708382
1074	STATICA	10.661803
1074	SISMICA	6.098529
1075	STATICA	10.661803
1075	SISMICA	5.488676
1085	STATICA	11.806691
1085	SISMICA	22.030938
1086	STATICA	11.806691
1086	SISMICA	21.382969
1087	STATICA	11.806691
1087	SISMICA	20.735000
1088	STATICA	11.806691
1088	SISMICA	20.087031
1089	STATICA	11.806691
1089	SISMICA	19.439063
1090	STATICA	11.806691
1090	SISMICA	18.791094
1091	STATICA	11.806691
1091	SISMICA	18.143125
1092	STATICA	11.806691
1092	SISMICA	17.495156
1093	STATICA	11.806691
1093	SISMICA	16.847188
1094	STATICA	11.806691
1094	SISMICA	16.199219
1095	STATICA	11.806691
1095	SISMICA	15.551250
1096	STATICA	11.806691
1096	SISMICA	14.903281
1097	STATICA	11.806691
1097	SISMICA	14.255313
1098	STATICA	11.806691
1098	SISMICA	13.607344
1099	STATICA	11.806691
1099	SISMICA	12.959375
1100	STATICA	11.806691
1100	SISMICA	12.311406
1101	STATICA	11.806691
1101	SISMICA	11.663438
1102	STATICA	11.806691
1102	SISMICA	11.015469
1103	STATICA	11.806691
1103	SISMICA	10.367500
1104	STATICA	11.806691
1104	SISMICA	9.719531
1105	STATICA	11.806691
1105	SISMICA	9.071563
1106	STATICA	11.806691
1106	SISMICA	8.423594
1107	STATICA	11.806691
1107	SISMICA	7.775625
1108	STATICA	11.806691
1108	SISMICA	7.127656
1109	STATICA	11.806691
1109	SISMICA	6.479688
1110	STATICA	11.806691
1110	SISMICA	5.831719
1120	STATICA	12.951578
1120	SISMICA	23.326875
1121	STATICA	12.951578
1121	SISMICA	22.640790
1122	STATICA	12.951578
1122	SISMICA	21.954706
1123	STATICA	12.951578
1123	SISMICA	21.268621
1124	STATICA	12.951578
1124	SISMICA	20.582537
1125	STATICA	12.951578
1125	SISMICA	19.896452
1126	STATICA	12.951578



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera	Tratto	Settore	CEE	WBS	Id.doc	N.progr.	REV.	Pag.di Pag.
L0703	211	E	11	CS19F0	REL	02	A	373 di 416

1126	SISMICA	19.210368
1127	STATICA	12.951578
1127	SISMICA	18.524283
1128	STATICA	12.951578
1128	SISMICA	17.838199
1129	STATICA	12.951578
1129	SISMICA	17.152114
1130	STATICA	12.951578
1130	SISMICA	16.466029
1131	STATICA	12.951578
1131	SISMICA	15.779945
1132	STATICA	12.951578
1132	SISMICA	15.093860
1133	STATICA	12.951578
1133	SISMICA	14.407776
1134	STATICA	12.951578
1134	SISMICA	13.721691
1135	STATICA	12.951578
1135	SISMICA	13.035607
1136	STATICA	12.951578
1136	SISMICA	12.349522
1137	STATICA	12.951578
1137	SISMICA	11.663438
1138	STATICA	12.951578
1138	SISMICA	10.977353
1139	STATICA	12.951578
1139	SISMICA	10.291268
1140	STATICA	12.951578
1140	SISMICA	9.605184
1141	STATICA	12.951578
1141	SISMICA	8.919099
1142	STATICA	12.951578
1142	SISMICA	8.233015
1143	STATICA	12.951578
1143	SISMICA	7.546930
1144	STATICA	12.951578
1144	SISMICA	6.860846
1145	STATICA	12.951578
1145	SISMICA	6.174761
1155	STATICA	14.096465
1155	SISMICA	24.622813
1156	STATICA	14.096465
1156	SISMICA	23.898612
1157	STATICA	14.096465
1157	SISMICA	23.174412
1158	STATICA	14.096465
1158	SISMICA	22.450211
1159	STATICA	14.096465
1159	SISMICA	21.726011
1160	STATICA	14.096465
1160	SISMICA	21.001811
1161	STATICA	14.096465
1161	SISMICA	20.277610
1162	STATICA	14.096465
1162	SISMICA	19.553410
1163	STATICA	14.096465
1163	SISMICA	18.829210
1164	STATICA	14.096465
1164	SISMICA	18.105009
1165	STATICA	14.096465
1165	SISMICA	17.380809
1166	STATICA	14.096465
1166	SISMICA	16.656608
1167	STATICA	14.096465
1167	SISMICA	15.932408
1168	STATICA	14.096465
1168	SISMICA	15.208208
1169	STATICA	14.096465
1169	SISMICA	14.484007
1170	STATICA	14.096465
1170	SISMICA	13.759807
1171	STATICA	14.096465
1171	SISMICA	13.035607
1172	STATICA	14.096465
1172	SISMICA	12.311406
1173	STATICA	14.096465
1173	SISMICA	11.587206
1174	STATICA	14.096465

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera	Tratto	Settore	CEE	WBS	Id.doc	N.progr.	REV.	Pag.di Pag.
L0703	211	E	11	CS19F0	REL	02	A	374 di 416

1174	SISMICA	10.863006
1175	STATICA	14.096465
1175	SISMICA	10.138805
1176	STATICA	14.096465
1176	SISMICA	9.414605
1177	STATICA	14.096465
1177	SISMICA	8.690404
1178	STATICA	14.096465
1178	SISMICA	7.966204
1179	STATICA	14.096465
1179	SISMICA	7.242004
1180	STATICA	14.096465
1180	SISMICA	6.517803
1190	STATICA	15.241353
1190	SISMICA	25.918750
1191	STATICA	15.241353
1191	SISMICA	25.156434
1192	STATICA	15.241353
1192	SISMICA	24.394118
1193	STATICA	15.241353
1193	SISMICA	23.631801
1194	STATICA	15.241353
1194	SISMICA	22.869485
1195	STATICA	15.241353
1195	SISMICA	22.107169
1196	STATICA	15.241353
1196	SISMICA	21.344853
1197	STATICA	15.241353
1197	SISMICA	20.582537
1198	STATICA	15.241353
1198	SISMICA	19.820221
1199	STATICA	15.241353
1199	SISMICA	19.057904
1200	STATICA	15.241353
1200	SISMICA	18.295588
1201	STATICA	15.241353
1201	SISMICA	17.533272
1202	STATICA	15.241353
1202	SISMICA	16.770956
1203	STATICA	15.241353
1203	SISMICA	16.008640
1204	STATICA	15.241353
1204	SISMICA	15.246324
1205	STATICA	15.241353
1205	SISMICA	14.484007
1206	STATICA	15.241353
1206	SISMICA	13.721691
1207	STATICA	15.241353
1207	SISMICA	12.959375
1208	STATICA	15.241353
1208	SISMICA	12.197059
1209	STATICA	15.241353
1209	SISMICA	11.434743
1210	STATICA	15.241353
1210	SISMICA	10.672426
1211	STATICA	15.241353
1211	SISMICA	9.910110
1212	STATICA	15.241353
1212	SISMICA	9.147794
1213	STATICA	15.241353
1213	SISMICA	8.385478
1214	STATICA	15.241353
1214	SISMICA	7.623162
1215	STATICA	15.241353
1215	SISMICA	6.860846
1225	STATICA	16.386240
1225	SISMICA	27.214688
1226	STATICA	16.386240
1226	SISMICA	26.414256
1227	STATICA	16.386240
1227	SISMICA	25.613824
1228	STATICA	16.386240
1228	SISMICA	24.813392
1229	STATICA	16.386240
1229	SISMICA	24.012960
1230	STATICA	16.386240
1230	SISMICA	23.212528
1231	STATICA	16.386240



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera	Tratto	Settore	CEE	WBS	Id.doc	N.progr.	REV.	Pag.di Pag.
L0703	211	E	11	CS19F0	REL	02	A	375 di 416

1231	SISMICA	22.412096
1232	STATICA	16.386240
1232	SISMICA	21.611664
1233	STATICA	16.386240
1233	SISMICA	20.811232
1234	STATICA	16.386240
1234	SISMICA	20.010800
1235	STATICA	16.386240
1235	SISMICA	19.210368
1236	STATICA	16.386240
1236	SISMICA	18.409936
1237	STATICA	16.386240
1237	SISMICA	17.609504
1238	STATICA	16.386240
1238	SISMICA	16.809072
1239	STATICA	16.386240
1239	SISMICA	16.008640
1240	STATICA	16.386240
1240	SISMICA	15.208208
1241	STATICA	16.386240
1241	SISMICA	14.407776
1242	STATICA	16.386240
1242	SISMICA	13.607344
1243	STATICA	16.386240
1243	SISMICA	12.806912
1244	STATICA	16.386240
1244	SISMICA	12.006480
1245	STATICA	16.386240
1245	SISMICA	11.206048
1246	STATICA	16.386240
1246	SISMICA	10.405616
1247	STATICA	16.386240
1247	SISMICA	9.605184
1248	STATICA	16.386240
1248	SISMICA	8.804752
1249	STATICA	16.386240
1249	SISMICA	8.004320
1250	STATICA	16.386240
1250	SISMICA	7.203888
1260	STATICA	17.531127
1260	SISMICA	28.510625
1261	STATICA	17.531127
1261	SISMICA	27.672077
1262	STATICA	17.531127
1262	SISMICA	26.833529
1263	STATICA	17.531127
1263	SISMICA	25.994982
1264	STATICA	17.531127
1264	SISMICA	25.156434
1265	STATICA	17.531127
1265	SISMICA	24.317886
1266	STATICA	17.531127
1266	SISMICA	23.479338
1267	STATICA	17.531127
1267	SISMICA	22.640790
1268	STATICA	17.531127
1268	SISMICA	21.802243
1269	STATICA	17.531127
1269	SISMICA	20.963695
1270	STATICA	17.531127
1270	SISMICA	20.125147
1271	STATICA	17.531127
1271	SISMICA	19.286599
1272	STATICA	17.531127
1272	SISMICA	18.448051
1273	STATICA	17.531127
1273	SISMICA	17.609504
1274	STATICA	17.531127
1274	SISMICA	16.770956
1275	STATICA	17.531127
1275	SISMICA	15.932408
1276	STATICA	17.531127
1276	SISMICA	15.093860
1277	STATICA	17.531127
1277	SISMICA	14.255313
1278	STATICA	17.531127
1278	SISMICA	13.416765
1279	STATICA	17.531127



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera	Tratto	Settore	CEE	WBS	Id.doc	N.progr.	REV.	Pag.di Pag.
L0703	211	E	11	CS19F0	REL	02	A	376 di 416

1279	SISMICA	12.578217
1280	STATICA	17.531127
1280	SISMICA	11.739669
1281	STATICA	17.531127
1281	SISMICA	10.901121
1282	STATICA	17.531127
1282	SISMICA	10.062574
1283	STATICA	17.531127
1283	SISMICA	9.224026
1284	STATICA	17.531127
1284	SISMICA	8.385478
1285	STATICA	17.531127
1285	SISMICA	7.546930
1295	STATICA	18.676014
1295	SISMICA	29.806563
1296	STATICA	18.676014
1296	SISMICA	28.929899
1297	STATICA	18.676014
1297	SISMICA	28.053235
1298	STATICA	18.676014
1298	SISMICA	27.176572
1299	STATICA	18.676014
1299	SISMICA	26.299908
1300	STATICA	18.676014
1300	SISMICA	25.423244
1301	STATICA	18.676014
1301	SISMICA	24.546581
1302	STATICA	18.676014
1302	SISMICA	23.669917
1303	STATICA	18.676014
1303	SISMICA	22.793254
1304	STATICA	18.676014
1304	SISMICA	21.916590
1305	STATICA	18.676014
1305	SISMICA	21.039926
1306	STATICA	18.676014
1306	SISMICA	20.163263
1307	STATICA	18.676014
1307	SISMICA	19.286599
1308	STATICA	18.676014
1308	SISMICA	18.409936
1309	STATICA	18.676014
1309	SISMICA	17.533272
1310	STATICA	18.676014
1310	SISMICA	16.656608
1311	STATICA	18.676014
1311	SISMICA	15.779945
1312	STATICA	18.676014
1312	SISMICA	14.903281
1313	STATICA	18.676014
1313	SISMICA	14.026618
1314	STATICA	18.676014
1314	SISMICA	13.149954
1315	STATICA	18.676014
1315	SISMICA	12.273290
1316	STATICA	18.676014
1316	SISMICA	11.396627
1317	STATICA	18.676014
1317	SISMICA	10.519963
1318	STATICA	18.676014
1318	SISMICA	9.643300
1319	STATICA	18.676014
1319	SISMICA	8.766636
1320	STATICA	18.676014
1320	SISMICA	7.889972
1330	STATICA	19.820902
1330	SISMICA	31.102500
1331	STATICA	19.820902
1331	SISMICA	30.187721
1332	STATICA	19.820902
1332	SISMICA	29.272941
1333	STATICA	19.820902
1333	SISMICA	28.358162
1334	STATICA	19.820902
1334	SISMICA	27.443382
1335	STATICA	19.820902
1335	SISMICA	26.528603
1336	STATICA	19.820902

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera	Tratto	Settore	CEE	WBS	Id.doc	N.progr.	REV.	Pag.di Pag.
L0703	211	E	11	CS19F0	REL	02	A	377 di 416

1336	SISMICA	25.613824
1337	STATICA	19.820902
1337	SISMICA	24.699044
1338	STATICA	19.820902
1338	SISMICA	23.784265
1339	STATICA	19.820902
1339	SISMICA	22.869485
1340	STATICA	19.820902
1340	SISMICA	21.954706
1341	STATICA	19.820902
1341	SISMICA	21.039926
1342	STATICA	19.820902
1342	SISMICA	20.125147
1343	STATICA	19.820902
1343	SISMICA	19.210368
1344	STATICA	19.820902
1344	SISMICA	18.295588
1345	STATICA	19.820902
1345	SISMICA	17.380809
1346	STATICA	19.820902
1346	SISMICA	16.466029
1347	STATICA	19.820902
1347	SISMICA	15.551250
1348	STATICA	19.820902
1348	SISMICA	14.636471
1349	STATICA	19.820902
1349	SISMICA	13.721691
1350	STATICA	19.820902
1350	SISMICA	12.806912
1351	STATICA	19.820902
1351	SISMICA	11.892132
1352	STATICA	19.820902
1352	SISMICA	10.977353
1353	STATICA	19.820902
1353	SISMICA	10.062574
1354	STATICA	19.820902
1354	SISMICA	9.147794
1355	STATICA	19.820902
1355	SISMICA	8.233015
1365	STATICA	20.965789
1365	SISMICA	32.398438
1366	STATICA	20.965789
1366	SISMICA	31.445542
1367	STATICA	20.965789
1367	SISMICA	30.492647
1368	STATICA	20.965789
1368	SISMICA	29.539752
1369	STATICA	20.965789
1369	SISMICA	28.586857
1370	STATICA	20.965789
1370	SISMICA	27.633961
1371	STATICA	20.965789
1371	SISMICA	26.681066
1372	STATICA	20.965789
1372	SISMICA	25.728171
1373	STATICA	20.965789
1373	SISMICA	24.775276
1374	STATICA	20.965789
1374	SISMICA	23.822381
1375	STATICA	20.965789
1375	SISMICA	22.869485
1376	STATICA	20.965789
1376	SISMICA	21.916590
1377	STATICA	20.965789
1377	SISMICA	20.963695
1378	STATICA	20.965789
1378	SISMICA	20.010800
1379	STATICA	20.965789
1379	SISMICA	19.057904
1380	STATICA	20.965789
1380	SISMICA	18.105009
1381	STATICA	20.965789
1381	SISMICA	17.152114
1382	STATICA	20.965789
1382	SISMICA	16.199219
1383	STATICA	20.965789
1383	SISMICA	15.246324
1384	STATICA	20.965789

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera	Tratto	Settore	CEE	WBS	Id.doc	N.progr.	REV.	Pag.di Pag.
L0703	211	E	11	CS19F0	REL	02	A	378 di 416

1384	SISMICA	14.293428
1385	STATICA	20.965789
1385	SISMICA	13.340533
1386	STATICA	20.965789
1386	SISMICA	12.387638
1387	STATICA	20.965789
1387	SISMICA	11.434743
1388	STATICA	20.965789
1388	SISMICA	10.481847
1389	STATICA	20.965789
1389	SISMICA	9.528952
1390	STATICA	20.965789
1390	SISMICA	8.576057
1400	STATICA	22.110676
1400	SISMICA	33.694375
1401	STATICA	22.110676
1401	SISMICA	32.703364
1402	STATICA	22.110676
1402	SISMICA	31.712353
1403	STATICA	22.110676
1403	SISMICA	30.721342
1404	STATICA	22.110676
1404	SISMICA	29.730331
1405	STATICA	22.110676
1405	SISMICA	28.739320
1406	STATICA	22.110676
1406	SISMICA	27.748309
1407	STATICA	22.110676
1407	SISMICA	26.757298
1408	STATICA	22.110676
1408	SISMICA	25.766287
1409	STATICA	22.110676
1409	SISMICA	24.775276
1410	STATICA	22.110676
1410	SISMICA	23.784265
1411	STATICA	22.110676
1411	SISMICA	22.793254
1412	STATICA	22.110676
1412	SISMICA	21.802243
1413	STATICA	22.110676
1413	SISMICA	20.811232
1414	STATICA	22.110676
1414	SISMICA	19.820221
1415	STATICA	22.110676
1415	SISMICA	18.829210
1416	STATICA	22.110676
1416	SISMICA	17.838199
1417	STATICA	22.110676
1417	SISMICA	16.847188
1418	STATICA	22.110676
1418	SISMICA	15.856176
1419	STATICA	22.110676
1419	SISMICA	14.865165
1420	STATICA	22.110676
1420	SISMICA	13.874154
1421	STATICA	22.110676
1421	SISMICA	12.883143
1422	STATICA	22.110676
1422	SISMICA	11.892132
1423	STATICA	22.110676
1423	SISMICA	10.901121
1424	STATICA	22.110676
1424	SISMICA	9.910110
1425	STATICA	22.110676
1425	SISMICA	8.919099
1435	STATICA	23.255564
1435	SISMICA	34.990313
1436	STATICA	23.255564
1436	SISMICA	33.961186
1437	STATICA	23.255564
1437	SISMICA	32.932059
1438	STATICA	23.255564
1438	SISMICA	31.902932
1439	STATICA	23.255564
1439	SISMICA	30.873805
1440	STATICA	23.255564
1440	SISMICA	29.844678
1441	STATICA	23.255564

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera	Tratto	Settore	CEE	WBS	Id.doc	N.progr.	REV.	Pag.di Pag.
L0703	211	E	11	CS19F0	REL	02	A	379 di 416

1441	SISMICA	28.815551
1442	STATICA	23.255564
1442	SISMICA	27.786425
1443	STATICA	23.255564
1443	SISMICA	26.757298
1444	STATICA	23.255564
1444	SISMICA	25.728171
1445	STATICA	23.255564
1445	SISMICA	24.699044
1446	STATICA	23.255564
1446	SISMICA	23.669917
1447	STATICA	23.255564
1447	SISMICA	22.640790
1448	STATICA	23.255564
1448	SISMICA	21.611664
1449	STATICA	23.255564
1449	SISMICA	20.582537
1450	STATICA	23.255564
1450	SISMICA	19.553410
1451	STATICA	23.255564
1451	SISMICA	18.524283
1452	STATICA	23.255564
1452	SISMICA	17.495156
1453	STATICA	23.255564
1453	SISMICA	16.466029
1454	STATICA	23.255564
1454	SISMICA	15.436903
1455	STATICA	23.255564
1455	SISMICA	14.407776
1456	STATICA	23.255564
1456	SISMICA	13.378649
1457	STATICA	23.255564
1457	SISMICA	12.349522
1458	STATICA	23.255564
1458	SISMICA	11.320395
1459	STATICA	23.255564
1459	SISMICA	10.291268
1460	STATICA	23.255564
1460	SISMICA	9.262142
1470	STATICA	24.400451
1470	SISMICA	36.286250
1471	STATICA	24.400451
1471	SISMICA	35.219007
1472	STATICA	24.400451
1472	SISMICA	34.151765
1473	STATICA	24.400451
1473	SISMICA	33.084522
1474	STATICA	24.400451
1474	SISMICA	32.017279
1475	STATICA	24.400451
1475	SISMICA	30.950037
1476	STATICA	24.400451
1476	SISMICA	29.882794
1477	STATICA	24.400451
1477	SISMICA	28.815551
1478	STATICA	24.400451
1478	SISMICA	27.748309
1479	STATICA	24.400451
1479	SISMICA	26.681066
1480	STATICA	24.400451
1480	SISMICA	25.613824
1481	STATICA	24.400451
1481	SISMICA	24.546581
1482	STATICA	24.400451
1482	SISMICA	23.479338
1483	STATICA	24.400451
1483	SISMICA	22.412096
1484	STATICA	24.400451
1484	SISMICA	21.344853
1485	STATICA	24.400451
1485	SISMICA	20.277610
1486	STATICA	24.400451
1486	SISMICA	19.210368
1487	STATICA	24.400451
1487	SISMICA	18.143125
1488	STATICA	24.400451
1488	SISMICA	17.075882
1489	STATICA	24.400451



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera	Tratto	Settore	CEE	WBS	Id.doc	N.progr.	REV.	Pag.di Pag.
L0703	211	E	11	CS19F0	REL	02	A	380 di 416

1489	SISMICA	16.008640
1490	STATICA	24.400451
1490	SISMICA	14.941397
1491	STATICA	24.400451
1491	SISMICA	13.874154
1492	STATICA	24.400451
1492	SISMICA	12.806912
1493	STATICA	24.400451
1493	SISMICA	11.739669
1494	STATICA	24.400451
1494	SISMICA	10.672426
1495	STATICA	24.400451
1495	SISMICA	9.605184
1505	STATICA	25.545338
1505	SISMICA	37.582188
1506	STATICA	25.545338
1506	SISMICA	36.476829
1507	STATICA	25.545338
1507	SISMICA	35.371471
1508	STATICA	25.545338
1508	SISMICA	34.266112
1509	STATICA	25.545338
1509	SISMICA	33.160754
1510	STATICA	25.545338
1510	SISMICA	32.055395
1511	STATICA	25.545338
1511	SISMICA	30.950037
1512	STATICA	25.545338
1512	SISMICA	29.844678
1513	STATICA	25.545338
1513	SISMICA	28.739320
1514	STATICA	25.545338
1514	SISMICA	27.633961
1515	STATICA	25.545338
1515	SISMICA	26.528603
1516	STATICA	25.545338
1516	SISMICA	25.423244
1517	STATICA	25.545338
1517	SISMICA	24.317886
1518	STATICA	25.545338
1518	SISMICA	23.212528
1519	STATICA	25.545338
1519	SISMICA	22.107169
1520	STATICA	25.545338
1520	SISMICA	21.001811
1521	STATICA	25.545338
1521	SISMICA	19.896452
1522	STATICA	25.545338
1522	SISMICA	18.791094
1523	STATICA	25.545338
1523	SISMICA	17.685735
1524	STATICA	25.545338
1524	SISMICA	16.580377
1525	STATICA	25.545338
1525	SISMICA	15.475018
1526	STATICA	25.545338
1526	SISMICA	14.369660
1527	STATICA	25.545338
1527	SISMICA	13.264301
1528	STATICA	25.545338
1528	SISMICA	12.158943
1529	STATICA	25.545338
1529	SISMICA	11.053585
1530	STATICA	25.545338
1530	SISMICA	9.948226
1540	STATICA	26.690225
1540	SISMICA	38.878125
1541	STATICA	26.690225
1541	SISMICA	37.734651
1542	STATICA	26.690225
1542	SISMICA	36.591176
1543	STATICA	26.690225
1543	SISMICA	35.447702
1544	STATICA	26.690225
1544	SISMICA	34.304228
1545	STATICA	26.690225
1545	SISMICA	33.160754
1546	STATICA	26.690225



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera	Tratto	Settore	CEE	WBS	Id.doc	N.progr.	REV.	Pag.di Pag.
L0703	211	E	11	CS19F0	REL	02	A	381 di 416

1546	SISMICA	32.017279
1547	STATICA	26.690225
1547	SISMICA	30.873805
1548	STATICA	26.690225
1548	SISMICA	29.730331
1549	STATICA	26.690225
1549	SISMICA	28.586857
1550	STATICA	26.690225
1550	SISMICA	27.443382
1551	STATICA	26.690225
1551	SISMICA	26.299908
1552	STATICA	26.690225
1552	SISMICA	25.156434
1553	STATICA	26.690225
1553	SISMICA	24.012960
1554	STATICA	26.690225
1554	SISMICA	22.869485
1555	STATICA	26.690225
1555	SISMICA	21.726011
1556	STATICA	26.690225
1556	SISMICA	20.582537
1557	STATICA	26.690225
1557	SISMICA	19.439063
1558	STATICA	26.690225
1558	SISMICA	18.295588
1559	STATICA	26.690225
1559	SISMICA	17.152114
1560	STATICA	26.690225
1560	SISMICA	16.008640
1561	STATICA	26.690225
1561	SISMICA	14.865165
1562	STATICA	26.690225
1562	SISMICA	13.721691
1563	STATICA	26.690225
1563	SISMICA	12.578217
1564	STATICA	26.690225
1564	SISMICA	11.434743
1565	STATICA	26.690225
1565	SISMICA	10.291268
1575	STATICA	27.835113
1575	SISMICA	40.174063
1576	STATICA	27.835113
1576	SISMICA	38.992472
1577	STATICA	27.835113
1577	SISMICA	37.810882
1578	STATICA	27.835113
1578	SISMICA	36.629292
1579	STATICA	27.835113
1579	SISMICA	35.447702
1580	STATICA	27.835113
1580	SISMICA	34.266112
1581	STATICA	27.835113
1581	SISMICA	33.084522
1582	STATICA	27.835113
1582	SISMICA	31.902932
1583	STATICA	27.835113
1583	SISMICA	30.721342
1584	STATICA	27.835113
1584	SISMICA	29.539752
1585	STATICA	27.835113
1585	SISMICA	28.358162
1586	STATICA	27.835113
1586	SISMICA	27.176572
1587	STATICA	27.835113
1587	SISMICA	25.994982
1588	STATICA	27.835113
1588	SISMICA	24.813392
1589	STATICA	27.835113
1589	SISMICA	23.631801
1590	STATICA	27.835113
1590	SISMICA	22.450211
1591	STATICA	27.835113
1591	SISMICA	21.268621
1592	STATICA	27.835113
1592	SISMICA	20.087031
1593	STATICA	27.835113
1593	SISMICA	18.905441
1594	STATICA	27.835113



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera	Tratto	Settore	CEE	WBS	Id.doc	N.progr.	REV.	Pag.di Pag.
L0703	211	E	11	CS19F0	REL	02	A	382 di 416

1594	SISMICA	17.723851
1595	STATICA	27.835113
1595	SISMICA	16.542261
1596	STATICA	27.835113
1596	SISMICA	15.360671
1597	STATICA	27.835113
1597	SISMICA	14.179081
1598	STATICA	27.835113
1598	SISMICA	12.997491
1599	STATICA	27.835113
1599	SISMICA	11.815901
1600	STATICA	27.835113
1600	SISMICA	10.634311
1610	STATICA	28.980000
1610	SISMICA	40.250294
1611	STATICA	28.980000
1611	SISMICA	39.030588
1612	STATICA	28.980000
1612	SISMICA	37.810882
1613	STATICA	28.980000
1613	SISMICA	36.591176
1614	STATICA	28.980000
1614	SISMICA	35.371471
1615	STATICA	28.980000
1615	SISMICA	34.151765
1616	STATICA	28.980000
1616	SISMICA	32.932059
1617	STATICA	28.980000
1617	SISMICA	31.712353
1618	STATICA	28.980000
1618	SISMICA	30.492647
1619	STATICA	28.980000
1619	SISMICA	29.272941
1620	STATICA	28.980000
1620	SISMICA	28.053235
1621	STATICA	28.980000
1621	SISMICA	26.833529
1622	STATICA	28.980000
1622	SISMICA	25.613824
1623	STATICA	28.980000
1623	SISMICA	24.394118
1624	STATICA	28.980000
1624	SISMICA	23.174412
1625	STATICA	28.980000
1625	SISMICA	21.954706
1626	STATICA	28.980000
1626	SISMICA	20.735000
1627	STATICA	28.980000
1627	SISMICA	19.515294
1628	STATICA	28.980000
1628	SISMICA	18.295588
1629	STATICA	28.980000
1629	SISMICA	17.075882
1630	STATICA	28.980000
1630	SISMICA	15.856176
1631	STATICA	28.980000
1631	SISMICA	14.636471
1632	STATICA	28.980000
1632	SISMICA	13.416765
1633	STATICA	28.980000
1633	SISMICA	12.197059
1634	STATICA	28.980000
1634	SISMICA	10.977353
2	STATICA	7.254004
2	SISMICA	14.579297
3	STATICA	5.124004
3	SISMICA	9.719531
4	STATICA	2.994004
4	SISMICA	4.859766
5	STATICA	0.012004
6	STATICA	7.254004
7	STATICA	5.124004
8	STATICA	2.994004
9	STATICA	0.012004
10	STATICA	7.254004
11	STATICA	5.124004
12	STATICA	2.994004
13	STATICA	0.012004



GUADRILATERO
Marche Umbria S.p.A.

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto

2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

Opera	Tratto	Settore	CEE	WBS	Id.doc	N.progr.	REV.	Pag.di Pag.
L0703	211	E	11	CS19F0	REL	02	A	383 di 416

14	STATICA	7.254004
15	STATICA	5.124004
16	STATICA	2.994004
17	STATICA	0.012004
18	STATICA	7.254004
19	STATICA	5.124004
20	STATICA	2.994004
21	STATICA	0.012004
22	STATICA	7.254004
23	STATICA	5.124004
24	STATICA	2.994004
25	STATICA	0.012004
26	STATICA	7.254004
27	STATICA	5.124004
28	STATICA	2.994004
29	STATICA	0.012004
30	STATICA	7.254004
31	STATICA	5.124004
32	STATICA	2.994004
33	STATICA	0.012004
34	STATICA	7.254004
35	STATICA	5.124004
36	STATICA	2.994004
37	STATICA	0.012004
38	STATICA	7.254004
39	STATICA	5.124004
40	STATICA	2.994004
41	STATICA	0.012004
42	STATICA	7.254004
43	STATICA	5.124004
44	STATICA	2.994004
45	STATICA	0.012004
46	STATICA	7.254004
47	STATICA	5.124004
48	STATICA	2.994004
49	STATICA	0.012004
50	STATICA	7.254004
51	STATICA	5.124004
52	STATICA	2.994004
53	STATICA	0.012004
54	STATICA	7.254004
55	STATICA	5.124004
56	STATICA	2.994004
57	STATICA	0.012004
58	STATICA	7.254004
59	STATICA	5.124004
60	STATICA	2.994004
61	STATICA	0.012004
62	STATICA	7.254004
63	STATICA	5.124004
64	STATICA	2.994004
65	STATICA	0.012004
66	STATICA	7.254004
67	STATICA	5.124004
68	STATICA	2.994004
69	STATICA	0.012004
70	STATICA	7.254004
71	STATICA	5.124004
72	STATICA	2.994004
73	STATICA	0.012004
74	STATICA	7.254004
75	STATICA	5.124004
76	STATICA	2.994004
77	STATICA	0.012004
78	STATICA	7.254004
79	STATICA	5.124004
80	STATICA	2.994004
81	STATICA	0.012004
82	STATICA	7.254004
83	STATICA	5.124004
84	STATICA	2.994004
85	STATICA	0.012004
86	STATICA	7.254004
87	STATICA	5.124004
88	STATICA	2.994004
89	STATICA	0.012004
90	STATICA	7.254004
91	STATICA	5.124004

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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92	STATICA	2.994004
93	STATICA	0.012004
94	STATICA	7.254004
95	STATICA	5.124004
96	STATICA	2.994004
97	STATICA	0.012004
98	STATICA	7.254004
99	STATICA	5.124004
100	STATICA	2.994004
101	STATICA	0.012004
102	STATICA	7.254004
102	SISMICA	3.859226
103	STATICA	5.124004
103	SISMICA	2.572817
104	STATICA	2.994004
104	SISMICA	1.286409
105	STATICA	0.012004
231	STATICA	8.319004
231	SISMICA	9.433663
232	STATICA	8.319004
232	SISMICA	17.009180
233	STATICA	6.189004
234	STATICA	6.189004
234	SISMICA	12.149414
235	STATICA	4.059004
236	STATICA	4.059004
236	SISMICA	7.289648
237	STATICA	1.929004
238	STATICA	1.929004
238	SISMICA	2.429883
239	STATICA	8.319004
239	SISMICA	9.147794
240	STATICA	6.189004
241	STATICA	4.059004
242	STATICA	1.929004
243	STATICA	8.319004
243	SISMICA	8.861926
244	STATICA	6.189004
245	STATICA	4.059004
246	STATICA	1.929004
247	STATICA	8.319004
247	SISMICA	8.576057
248	STATICA	6.189004
249	STATICA	4.059004
250	STATICA	1.929004
251	STATICA	8.319004
251	SISMICA	8.290188
252	STATICA	6.189004
253	STATICA	4.059004
254	STATICA	1.929004
255	STATICA	8.319004
255	SISMICA	8.004320
256	STATICA	6.189004
257	STATICA	4.059004
258	STATICA	1.929004
259	STATICA	8.319004
259	SISMICA	7.718451
260	STATICA	6.189004
261	STATICA	4.059004
262	STATICA	1.929004
263	STATICA	8.319004
263	SISMICA	7.432583
264	STATICA	6.189004
265	STATICA	4.059004
266	STATICA	1.929004
267	STATICA	8.319004
267	SISMICA	7.146714
268	STATICA	6.189004
269	STATICA	4.059004
270	STATICA	1.929004
271	STATICA	8.319004
271	SISMICA	6.860846
272	STATICA	6.189004
273	STATICA	4.059004
274	STATICA	1.929004
275	STATICA	8.319004
275	SISMICA	6.574977
276	STATICA	6.189004

2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord

Opere d'arte minori: opere di attraversamento

Sistemazione viabilità interferita al km 6+168

Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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277	STATICA	4.059004
278	STATICA	1.929004
279	STATICA	8.319004
279	SISMICA	6.289108
280	STATICA	6.189004
281	STATICA	4.059004
282	STATICA	1.929004
283	STATICA	8.319004
283	SISMICA	6.003240
284	STATICA	6.189004
285	STATICA	4.059004
286	STATICA	1.929004
287	STATICA	8.319004
287	SISMICA	5.717371
288	STATICA	6.189004
289	STATICA	4.059004
290	STATICA	1.929004
291	STATICA	8.319004
291	SISMICA	5.431503
292	STATICA	6.189004
293	STATICA	4.059004
294	STATICA	1.929004
295	STATICA	8.319004
295	SISMICA	5.145634
296	STATICA	6.189004
297	STATICA	4.059004
298	STATICA	1.929004
299	STATICA	8.319004
299	SISMICA	4.859766
300	STATICA	6.189004
301	STATICA	4.059004
302	STATICA	1.929004
303	STATICA	8.319004
303	SISMICA	4.573897
304	STATICA	6.189004
305	STATICA	4.059004
306	STATICA	1.929004
307	STATICA	8.319004
307	SISMICA	4.288028
308	STATICA	6.189004
309	STATICA	4.059004
310	STATICA	1.929004
311	STATICA	8.319004
311	SISMICA	4.002160
312	STATICA	6.189004
313	STATICA	4.059004
314	STATICA	1.929004
315	STATICA	8.319004
315	SISMICA	3.716291
316	STATICA	6.189004
317	STATICA	4.059004
318	STATICA	1.929004
319	STATICA	8.319004
319	SISMICA	3.430423
320	STATICA	6.189004
321	STATICA	4.059004
322	STATICA	1.929004
323	STATICA	8.319004
323	SISMICA	3.144554
324	STATICA	6.189004
325	STATICA	4.059004
326	STATICA	1.929004
327	STATICA	8.319004
327	SISMICA	2.858686
328	STATICA	6.189004
329	STATICA	4.059004
330	STATICA	1.929004
331	STATICA	8.319004
331	SISMICA	4.502430
332	STATICA	6.189004
332	SISMICA	3.216021
333	STATICA	4.059004
333	SISMICA	1.929613
334	STATICA	1.929004
334	SISMICA	0.643204
335	STATICA	0.970504
336	STATICA	0.970504
336	SISMICA	1.214941

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337	STATICA	0.970504
338	STATICA	0.970504
339	STATICA	0.970504
340	STATICA	0.970504
341	STATICA	0.970504
342	STATICA	0.970504
343	STATICA	0.970504
344	STATICA	0.970504
345	STATICA	0.970504
346	STATICA	0.970504
347	STATICA	0.970504
348	STATICA	0.970504
349	STATICA	0.970504
350	STATICA	0.970504
351	STATICA	0.970504
352	STATICA	0.970504
353	STATICA	0.970504
354	STATICA	0.970504
355	STATICA	0.970504
356	STATICA	0.970504
357	STATICA	0.970504
358	STATICA	0.970504
359	STATICA	0.970504
360	STATICA	0.970504
360	SISMICA	0.321602

Table: Joint Pattern Definitions

Pattern

DEFAULT
 STATICA
 SISMICA

Table: Joint Restraint Assignments

Joint	U1	U2	U3	R1	R2	R3
1	Yes	Yes	Yes	Yes	Yes	Yes
2	Yes	Yes	Yes	Yes	Yes	Yes
3	Yes	Yes	Yes	Yes	Yes	Yes
4	Yes	Yes	Yes	Yes	Yes	Yes
5	Yes	Yes	Yes	Yes	Yes	Yes
102	Yes	Yes	Yes	Yes	Yes	Yes
103	Yes	Yes	Yes	Yes	Yes	Yes
104	Yes	Yes	Yes	Yes	Yes	Yes
105	Yes	Yes	Yes	Yes	Yes	Yes
232	Yes	Yes	Yes	Yes	Yes	Yes
234	Yes	Yes	Yes	Yes	Yes	Yes
236	Yes	Yes	Yes	Yes	Yes	Yes
238	Yes	Yes	Yes	Yes	Yes	Yes
331	Yes	Yes	Yes	Yes	Yes	Yes
332	Yes	Yes	Yes	Yes	Yes	Yes
333	Yes	Yes	Yes	Yes	Yes	Yes
334	Yes	Yes	Yes	Yes	Yes	Yes
336	Yes	Yes	Yes	Yes	Yes	Yes
360	Yes	Yes	Yes	Yes	Yes	Yes
1015	Yes	Yes	Yes	Yes	Yes	Yes
1040	Yes	Yes	Yes	Yes	Yes	Yes
1050	Yes	Yes	Yes	Yes	Yes	Yes
1075	Yes	Yes	Yes	Yes	Yes	Yes
1085	Yes	Yes	Yes	Yes	Yes	Yes
1110	Yes	Yes	Yes	Yes	Yes	Yes
1120	Yes	Yes	Yes	Yes	Yes	Yes
1145	Yes	Yes	Yes	Yes	Yes	Yes
1155	Yes	Yes	Yes	Yes	Yes	Yes
1180	Yes	Yes	Yes	Yes	Yes	Yes
1190	Yes	Yes	Yes	Yes	Yes	Yes
1215	Yes	Yes	Yes	Yes	Yes	Yes
1225	Yes	Yes	Yes	Yes	Yes	Yes
1250	Yes	Yes	Yes	Yes	Yes	Yes
1260	Yes	Yes	Yes	Yes	Yes	Yes
1285	Yes	Yes	Yes	Yes	Yes	Yes
1295	Yes	Yes	Yes	Yes	Yes	Yes



2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto
2.1 Tratto Fabriano-Matelica Nord
 Opere d'arte minori: opere di attraversamento
Sistemazione viabilità interferita al km 6+168
 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo

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1320	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1330	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1355	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1365	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1390	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1400	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1425	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1435	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1460	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1470	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1495	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1505	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1530	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1540	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1565	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1575	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1600	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1610	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1611	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1612	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1613	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1614	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1615	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1616	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1617	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1618	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1619	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1620	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1621	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1622	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1623	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1624	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1625	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1626	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1627	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1628	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1629	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1630	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1631	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1632	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1633	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1634	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table: Load Case Definitions, Part 1 of 2

Case	Type	InitialCond	ModalCase	BaseCase	DesTypeOpt	DesignType	AutoType
STATICA	LinStatic	Zero			Prog Det	DEAD	None
SISMICA	LinStatic	Zero			Prog Det	DEAD	None
LOAD	LinStatic	Zero			Prog Det	DEAD	None
SOVRAC	LinStatic	Zero			Prog Det	DEAD	None

Table: Load Case Definitions, Part 2 of 2

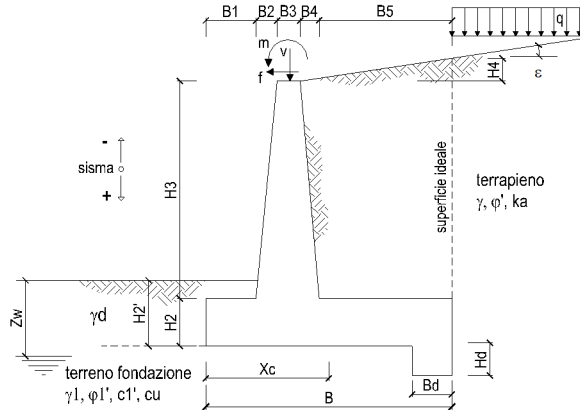
Case	RunCase	CaseStatus	GUID	Notes
STATICA	Yes	Finished		
SISMICA	Yes	Finished		
LOAD	Yes	Finished		
SOVRAC	Yes	Finished		

Table: Load Pattern Definitions

LoadPat	DesignType	SelfWtMult	AutoLoad	GUID	Notes
STATICA	DEAD	0.000000			
SISMICA	DEAD	0.000000			
LOAD	DEAD	1.000000			
SOVRAC	DEAD	0.000000			

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ALLEGATO 2 : TABULATI DI CALCOLO DEL MURO DI SOSTEGNO SU FONDAZIONE DIRETTA



OPERA Hmuro = **2.90 m**

DATI DI PROGETTO:

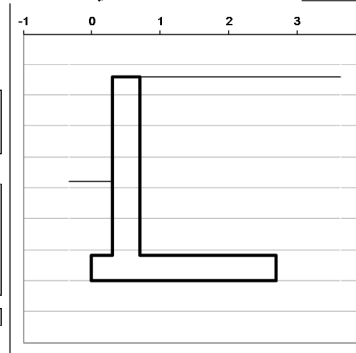
Geometria del Muro

Elevazione	H3 =	2.90 (m)
Aggetto Valle	B2 =	0.00 (m)
Spessore del Muro in Testa	B3 =	0.40 (m)
Aggetto monte	B4 =	0.00 (m)

Geometria della Fondazione

Larghezza Fondazione	B =	2.70 (m)
Spessore Fondazione	H2 =	0.40 (m)
Suola Lato Valle	B1 =	0.30 (m)
Suola Lato Monte	B5 =	2.00 (m)
Altezza dente	Hd =	0.00 (m)
Larghezza dente	Bd =	0.00 (m)
Mezzeria Sezione	Xc =	1.35 (m)

Peso Specifico del Calcestruzzo	gammaCs =	25.00 (kN/m ³)
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Dati Geotecnici

Dati Terrapieno	Angolo di attrito del terrapieno	phi' =	35.00 (°)	
	Peso Unità di Volume del terrapieno	gamma =	20.00 (kN/m ³)	
Dati Terreno Fondazione	Angolo di inclinazione Piano di Campagna	epsilon =	0.00 (°)	
	Angolo di attrito terreno-paramento	phi_muro =	17.50 (°)	
	Angolo di attrito terreno-superficie ideale	phi_sup id =	17.50 (°)	
	Condizioni		<input checked="" type="radio"/> drenate	<input type="radio"/> Non Drenate
	Coesione Terreno di Fondazione	c1' =	5.00 (kPa)	
	Angolo di attrito del Terreno di Fondazione	phi1' =	27.50 (°)	
Dati Sismici	Peso Unità di Volume del Terreno di Fondazione	gamma1 =	19.50 (kN/m ³)	
	Peso Unità di Volume del Rientro della Fondazione	gamma_d =	20.00 (kN/m ³)	
	Profondità Piano di Posa della Fondazione	H2' =	1.80 (m)	
	Profondità Falda	Zw =	100.00 (m)	
	Profondità "Significativa" (n.b.: consigliata H=2*B)	Hs =	5.40 (m)	
	Modulo di deformazione	E =	15000 (kN/m ²)	
Coeff. di Spinta	Accelerazione sismica	a/g =	0.275 (-)	
	Coefficiente Categoria di Suolo	S =	1.25 (-)	
	il muro è libero di ruotare al piede? (si/no)		<input checked="" type="radio"/> si	<input type="radio"/> no
	il muro ammette spostamenti? (si/no)		<input checked="" type="radio"/> si	<input type="radio"/> no
Coeff. di Spinta	coefficiente sismico orizzontale	kh =	0.1719 (-)	
	coefficiente sismico verticale	kv =	0.0859 (-)	
	Coeff. di Spinta Attiva sulla superficie ideale	ka =	0.25 (-)	0.246
	Coeff. Di Spinta Attiva Sismica sulla superficie ideale sisma +	kas+ =	0.35 (-)	0.347
	Coeff. Di Spinta Attiva Sismica sulla superficie ideale sisma -	kas- =	0.37 (-)	0.370
	Coeff. Di Spinta Passiva in Fondazione	kp =	2.72 (-)	2.716
	Coeff. Di Spinta Passiva Sismica in Fondazione sisma +	kps+ =	2.44 (-)	2.439
	Coeff. Di Spinta Passiva Sismica in Fondazione sisma -	kps- =	2.38 (-)	2.382

Carichi Agenti

Condizioni Statiche	Sovraccarico Accidentale in condizioni statiche	q =	29.00 (kN/m ²)
	Forza Orizzontale in Testa in condizioni statiche	f =	0.00 (kN/m)
	Forza Verticale in Testa in condizioni statiche	v =	0.00 (kN/m)
	Momento in Testa in condizioni statiche	m =	0.00 (kNm/m)
Condizioni Sismiche	Sovraccarico Accidentale in condizioni sismiche	qs =	9.00 (kN/m ²)
	Forza Orizzontale in Testa in condizioni sismiche	fs =	0.00 (kN/m)
	Forza Verticale in Testa in condizioni sismiche	vs =	0.00 (kN/m)
	Momento in Testa in condizioni sismiche	ms =	0.00 (kNm/m)

		coefficienti parziali					
		caso	azioni		proprietà del terreno		
			permanenti sfavorevoli	temporane e variabili sfavorevoli	tan φ'	c'	c _u
SLU	●	caso A1+M1	1.40	1.50	1.00	1.00	1.00
	○	caso A2+M2	1.00	1.30	1.25	1.25	1.40
SLD	○	–	1.00	1.00	1.25	1.25	1.40
def.	○	–	1.00	1.00	1.00	1.00	1.00

Dati Geotecnici (usati per verifiche di stabilità e SLU)

Dati	Descrizione	Valore	Unità	Valore Normativo
Dati Terrapieno	Angolo di attrito del terrapieno	φ'	= 35.00 (°)	
	Peso Unità di Volume del terrapieno	γ'	= 28.00 (kN/m ³)	
	Angolo di Inclinazione Piano di Campagna	ε	= 0.00 (°)	
	Angolo di attrito terreno-paramento	δ _{muro}	= 17.50 (°)	
	Angolo di attrito terreno-superficie ideale	δ _{sup id}	= 17.50 (°)	
Dati Terreno Fondazione	Coesione Terreno di Fondazione	c1'	= 5.00 (kN/m ²)	
	Angolo di attrito del Terreno di Fondazione	φ ₁ '	= 27.50 (°)	
	Peso Unità di Volume del Terreno di Fondazione	γ ₁	= 19.50 (kN/m ³)	
	Peso Unità di Volume del Rinterro della Fondazione	γ _d	= 20.00 (kN/m ³)	
	Profondità Piano di Posa della Fondazione	H2'	= 1.60 (m)	
	Profondità Falda	Zw	= 100.00 (m)	
Coefficienti di Spinta	Coeff. di Spinta Attiva sulla superficie ideale	ka	= 0.25 (-)	0.246
	Coeff. Di Spinta Attiva Sismica sulla superficie ideale	kas+	= 0.35 (-)	0.347
	Coeff. Di Spinta Attiva Sismica sulla superficie ideale	kas-	= 0.37 (-)	0.370
	Coeff. Di Spinta Passiva in Fondazione	kp	= 2.72 (-)	2.716
	Coeff. Di Spinta Passiva Sismica in Fondazione	kps+	= 2.44 (-)	2.439
	Coeff. Di Spinta Passiva Sismica in Fondazione	kps-	= 2.38 (-)	2.382

Carichi Agenti (usati per verifiche di stabilità e allo SLU)

Condizioni	Descrizione	Valore	Unità
Statiche	Sovraccarico Accidentale in condizioni statiche	q	= 43.50 (kN/m ²)
	Forza Orizzontale in Testa in condizioni statiche	f	= 0.00 (kN/m)
	Forza Verticale in Testa in condizioni statiche	v	= 0.00 (kN/m)
	Momento in Testa in condizioni statiche	m	= 0.00 (kNm/m)
Sismiche	Sovraccarico Accidentale in condizioni sismiche	qs	= 13.50 (kN/m ²)
	Forza Orizzontale in Testa in condizioni sismiche	fs	= 0.00 (kN/m)
	Forza Verticale in Testa in condizioni sismiche	vs	= 0.00 (kN/m)
	Momento in Testa in condizioni sismiche	ms	= 0.00 (kNm/m)

VERIFICHE GEOTECNICHE

FORZE VERTICALI

- Peso del Muro (Pm)

$$Pm1 = (B2 \cdot H3 \cdot \gamma_{cls}) / 2 = 0.00 \text{ (kN/m)}$$

$$Pm2 = (b3 \cdot H3 \cdot \gamma_{cls}) = 29.00 \text{ (kN/m)}$$

$$Pm3 = (B4 \cdot H3 \cdot \gamma_{cls}) / 2 = 0.00 \text{ (kN/m)}$$

$$Pm4 = (B \cdot H2 \cdot \gamma_{cls}) = 27.00 \text{ (kN/m)}$$

$$Pm5 = (Bd \cdot Hd \cdot \gamma_{cls}) = 0.00 \text{ (kN/m)}$$

$$Pm = Pm1 + Pm2 + Pm3 + Pm4 + Pm5 = 56.00 \text{ (kN/m)}$$

- Peso del terreno sulla scarpa di monte del muro (Pt)

$$Pt1 = (B5 \cdot H3 \cdot \gamma) = 116.00 \text{ (kN/m)}$$

$$Pt2 = (0.5 \cdot (B4 + B5) \cdot H4 \cdot \gamma) = 0.00 \text{ (kN/m)}$$

$$Pt3 = (B4 \cdot H3 \cdot \gamma) / 2 = 0.00 \text{ (kN/m)}$$

$$Pt = Pt1 + Pt2 + Pt3 = 116.00 \text{ (kN/m)}$$

MOMENTI DELLE FORZE VERT. RISPETTO AL PIEDE DI VALLE DEL MURO

- Muro (Mm)

$$Mm1 = Pm1 \cdot (B1 + 2/3 \cdot B2) = 0.00 \text{ (kNm/m)}$$

$$Mm2 = Pm2 \cdot (B1 + B2 + 0.5 \cdot B3) = 14.50 \text{ (kNm/m)}$$

$$Mm3 = Pm3 \cdot (B1 + B2 + B3 + 1/3 \cdot B4) = 0.00 \text{ (kNm/m)}$$

$$Mm4 = Pm4 \cdot (B/2) = 36.45 \text{ (kNm/m)}$$

$$Mm5 = Pm5 \cdot (B - Bd/2) = 0.00 \text{ (kNm/m)}$$

$$Mm = Mm1 + Mm2 + Mm3 + Mm4 + Mm5 = 50.95 \text{ (kNm/m)}$$

- Terrapieno a tergo del muro

$$Ml1 = Pt1 \cdot (B1 + B2 + B3 + B4 + 0.5 \cdot B5) = 197.20 \text{ (kNm/m)}$$

$$Ml2 = Pt2 \cdot (B1 + B2 + B3 + 2/3 \cdot (B4 + B5)) = 0.00 \text{ (kNm/m)}$$

$$Ml3 = Pt3 \cdot (B1 + B2 + B3 + 2/3 \cdot B4) = 0.00 \text{ (kNm/m)}$$

$$Ml = Ml1 + Ml2 + Ml3 = 197.20 \text{ (kNm/m)}$$

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CONDIZIONE STATICA (SLU A1-M1)
SPINTE DEL TERRENO E DEL SOVRACCARICO

- Spinta totale condizione statica

$$St = 0,5 \cdot \gamma \cdot (H2+H3+H4+Hd)^2 \cdot ka = 37.52 \quad (\text{kN/m})$$

$$Sq = q \cdot (H2+H3+H4+Hd) \cdot ka = 35.33 \quad (\text{kN/m})$$

- Componente orizzontale condizione statica

$$Sth = St \cdot \cos \delta = 35.79 \quad (\text{kN/m})$$

$$Sqh = Sq \cdot \cos \delta = 33.70 \quad (\text{kN/m})$$

- Componente verticale condizione statica

$$Stv = St \cdot \sin \delta = 11.28 \quad (\text{kN/m})$$

$$Sqv = Sq \cdot \sin \delta = 10.62 \quad (\text{kN/m})$$

- Spinta passiva sul dente

$$Sp = \frac{1}{2} \cdot \gamma_1 \cdot Hd^2 \cdot kp + (2 \cdot c_1 \cdot kp^{0.5} + \gamma_1 \cdot kp \cdot H2) \cdot Hd = 0.00 \quad (\text{kN/m})$$

MOMENTI DELLA SPINTA DEL TERRENO E DEL SOVRACCARICO

- Condizione statica

$$MSt1 = Sth \cdot (H2+H3+H4+Hd) / 3 - Hd = 39.37 \quad (\text{kNm/m})$$

$$MSt2 = Stv \cdot B = 30.47 \quad (\text{kNm/m})$$

$$MSq1 = Sqh \cdot (H2+H3+H4+Hd) / 2 - Hd = 55.60 \quad (\text{kNm/m})$$

$$MSq2 = Sqv \cdot B = 28.69 \quad (\text{kNm/m})$$

$$MSp = \gamma_1 \cdot Hd^3 \cdot kp / 3 + (2 \cdot c_1 \cdot kp^{0.5} + \gamma_1 \cdot kp \cdot H2) \cdot Hd^2 / 2 = 0.00 \quad (\text{kNm/m})$$

MOMENTI DOVUTI ALLE FORZE ESTERNE

$$Mfext1 = m = 0.00 \quad (\text{kNm/m})$$

$$Mfext2 = f \cdot (H3 + H2) = 0.00 \quad (\text{kNm/m})$$

$$Mfext3 = v \cdot (B1 + B2 + B3/2) = 0.00 \quad (\text{kNm/m})$$

VERIFICA ALLO SCORRIMENTO

Risultante forze verticali (N)

$$N = Pm + Pt + v + Stv + Sqv = 193.91 \quad (\text{kN/m})$$

Risultante forze orizzontali (T)

$$T = Sth + Sqh + f = 69.48 \quad (\text{kN/m})$$

Coefficiente di attrito alla base (f)

$$f = \tan \phi_1' = 0.52 \quad (-)$$

$$Fs = (N \cdot f + c_1 \cdot B3 + Sp) / T = 1.65 \quad (-)$$

VERIFICA AL RIBALTAMENTO

Momento stabilizzante (Ms)

$$Ms = Mm + Mt + MSt2 + MSq2 + Mfext3 = 307.30 \quad (\text{kNm/m})$$

Momento ribaltante (Mr)

$$Mr = MSt1 + MSq1 + Mfext1 + Mfext2 + MSp = 94.96 \quad (\text{kNm/m})$$

$$Fr = Ms / Mr = 3.24 \quad (-)$$

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VERIFICA DELLA FONDAZIONE

Risultante forze verticali (N)
 $N = P_m + P_t + v + St_v + S_{qv} = 193.91 \text{ (kN/m)}$

Risultante forze orizzontali (T)
 $T = S_{th} + S_{qh} + f - Sp = 69.48 \text{ (kN/m)}$

Risultante dei momenti rispetto al piede di valle (MM)
 $MM = M_s - M_r = 212.34 \text{ (kNm/m)}$

Momento rispetto al baricentro della fondazione (M)
 $M = X_c * N - MM = 49.44 \text{ (kNm/m)}$

Formula Generale per il Calcolo del Carico Limite Unitario (Brinch-Hansen, 1970)

Fondazione Nastriforme

$$q_{lim} = c' * N_c * i_c + q_0 * N_q * i_q + 0,5 * \gamma_1 * B * N_{\gamma} * i_{\gamma}$$

c'	coesione terreno di fondaz.	=	5.00	(kPa)
ϕ_1'	angolo di attrito terreno di fondaz.	=	27.50	(°)
γ_1	peso unità di volume terreno fondaz.	=	19.50	(kN/m ³)
$q_0 = \gamma * d * H_2'$	sovraccarico stabilizzante	=	32.00	(kN/m ²)
$e = M / N$	eccentricità	=	0.25	(m)
$B^* = B - 2e$	larghezza equivalente	=	2.19	(m)

I valori di N_c , N_q e N_{γ} sono stati valutati con le espressioni suggerite da Vesic (1975)

$N_q = \text{tg}^2(45 + \phi/2) * e^{(\pi * \text{tg}(\phi))}$	(1 in cond. nd)	=	13.94	(-)
$N_c = (N_q - 1) / \text{tg}(\phi)$	(2+ π in cond. nd)	=	24.85	(-)
$N_{\gamma} = 2 * (N_q + 1) * \text{tg}(\phi)$	(0 in cond. nd)	=	15.55	(-)

I valori di i_c , i_q e i_{γ} sono stati valutati con le espressioni suggerite da Vesic (1975)

$i_q = (1 - T / (N + B * c' * \text{cotg}(\phi)))^m$	(1 in cond. nd)	=	0.46	(-)
$i_c = i_q - (1 - i_q) / (N_q - 1)$		=	0.42	(-)
$i_{\gamma} = (1 - T / (N + B * c' * \text{cotg}(\phi)))^{m+1}$		=	0.31	(-)

(fondazione nastriforme $m = 2$)

$q_{lim} \text{ (carico limite unitario)} = 358.84 \text{ (kN/m}^2\text{)}$

$F = q_{lim} * B^* / N = 4.05 \text{ (-)}$

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CALCOLI STATICI - Verifica allo Stato Limite Ultimo

CARATTERISTICHE DEI MATERIALI

Calcestruzzo

R_{ck} = 40 (MPa)
 γ_c = 1.9
 f_{cd} = R_{ck} / γ_{m,c} = 21.05 (MPa)

Copriferro

c = 5.70 (cm)

Acciaio

tipo di acciaio = B450C
 f_{yk} = 450 (MPa)
 γ_E = 1.00
 γ_S = 1.15
 f_{yd} = f_{yk} / γ_S / γ_E = 391.30 (MPa)
 E_s = 210000 (MPa)
 ε_{ys} = 0.19%
 ε_{uk} = 3.000%
 ε_{ud} = 2.700%

CALCOLO SOLLECITAZIONI SOLETTA DI FONDAZIONE

Reazione del terreno

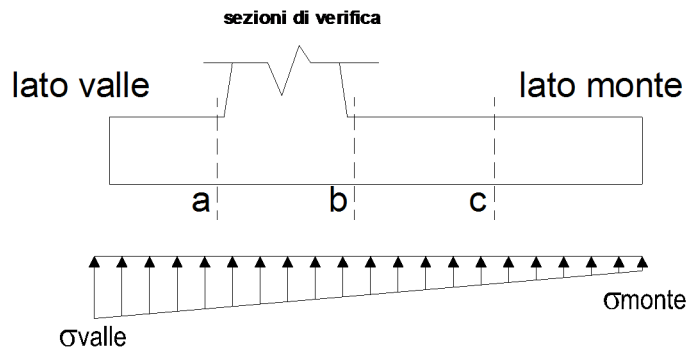
σ_{valle} = N / A + M / W_{gg}

σ_{monte} = N / A - M / W_{gg}

A = 1.0*B = 2.70 (m²)

W_{gg} = 1.0*B²/6 = 1.22 (m³)

caso	N	M	σ _{valle}	σ _{monte}
	[kN]	[kNm]	[kN/m ²]	[kN/m ²]
statico	193.91	49.44	112.51	31.13

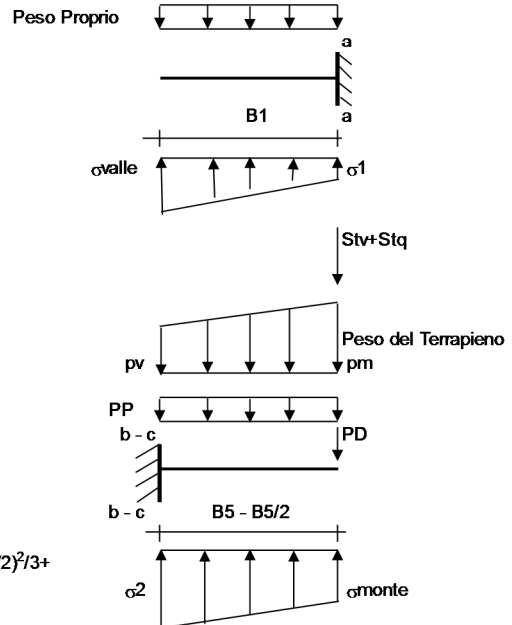


Mensola Lato Valle

Peso Proprio. PP = 10.00 (kN/m)

M_a = σ₁*B²/2 + (σ_{valle} - σ₁)*B²/3 - PP*B²/2*(1±kv)

caso	σ _{valle}	σ ₁	M _a	T _a
	[kN/m ²]	[kN/m ²]	[kNm]	[kN]
statico	112.51	103.47	4.48	29.40



Mensola Lato Monte

PP = 10.00 (kN/m²)
 PD = 0.00 (kN/m) peso proprio soletta fondazione
 peso proprio dente

p_m = 81.20 (kN/m²)
 p_{vb} = 81.20 (kN/m²)
 p_{vc} = 81.20 (kN/m²)

M_b = (σ_{monte} - (p_{vb} + PP)*(1±kv))*B²/2 + (σ_{2b} - σ_{monte})*B²/6 - (p_m - p_{vb})*B²/3 +
 -(St_v + Sq_v)*B² - PD*(1±kv)*(B₅ - Bd/2) - PD*kh*(H_d + H₂/2) + M_{sp} + Sp*H₂/2

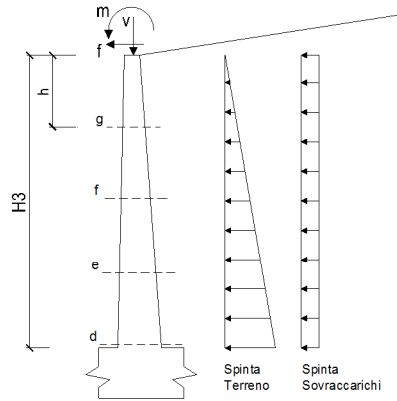
M_c = (σ_{monte} - (p_{vc} + PP)*(1±kv))*B²/2 + (σ_{2c} - σ_{monte})*(B₅/2)²/6 - (p_m - p_{vc})*(1±kv)*(B₅/2)²/3 +
 -(St_v + Sq_v)*(B₅/2) - PD*(1±kv)*(B₅/2 - Bd/2) - PD*kh*(H_d + H₂/2) + M_{sp} + Sp*H₂/2

caso	σ _{monte}	σ _{2b}	M _b	σ _{2c}	M _c	T _b
	[kN/m ²]	[kN/m ²]	[kNm]	[kN/m ²]	[kNm]	[kN]
statico	31.13	91.41	-123.77	61.27	-46.92	-81.77

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CALCOLO SOLLECITAZIONI PARAMENTO VERTICALE DEL MURO

Azioni sulla parete e Sezioni di Calcolo



Dati Sismici	Accelerazione sismica	a_g/g	=	0.28	(-)	
	Categoria di suolo	S	=	1.25	(-)	
	il muro ammette spostamenti? (si/no)		<input checked="" type="radio"/> si	<input type="radio"/> no	r = 2	
	coefficiente sismico orizzontale	kh	=	0.1719	(-)	
	coefficiente sismico verticale	kv	=	0.0859	(-)	
Coefficienti di Spinta	Coeff. di Spinta Attiva sulla parete	ka	=	0.25	(-)	0.246
	componente orizzontale	kah	=	0.235	(-)	
	componente verticale	kav	=	0.07	(-)	
	Coeff. Di Spinta Attiva Sismica sulla parete	kas+	=	0.35	(-)	0.347
	componente orizzontale	kash+	=	0.33	(-)	
	componente verticale	kasv+	=	0.10	(-)	
	Coeff. Di Spinta Attiva Sismica sulla parete	kas-	=	0.37	(-)	0.370
	componente orizzontale	kash-	=	0.35	(-)	
	componente verticale	kasv-	=	0.11	(-)	

$M_t = \frac{1}{2} K_{a_{orizz.}} \cdot \gamma \cdot (1 \pm kv) \cdot h^2 \cdot h/3$ o $\frac{1}{2} K_{a_{orizz.}} \cdot \gamma \cdot (1 \pm kv) \cdot h^2 \cdot h/2$ (con sisma)

$M_q = \frac{1}{2} K_{a_{orizz.}} \cdot q \cdot h^2$

$M_{ext} = m \cdot h$

$M_{inerzia} = \sum P m_i \cdot b_i \cdot kh$ (solo con sisma)

condizione statica

sezione	h [m]	Tt [kN/m]	Tq [kN/m]	T _{ext} [kN/m]	T _{tot} [kN/m]
d-d	2.90	27.64	29.61	0.00	57.25
e-e	2.18	15.55	22.21	0.00	37.75
f-f	1.45	6.91	14.81	0.00	21.72
g-g	0.73	1.73	7.40	0.00	9.13

$N_t = \frac{1}{2} K_{a_{vert.}} \cdot \gamma \cdot (1 \pm kv) \cdot h^2$

$N_q = K_{a_{vert.}} \cdot q \cdot h$

$N_{ext} = v$

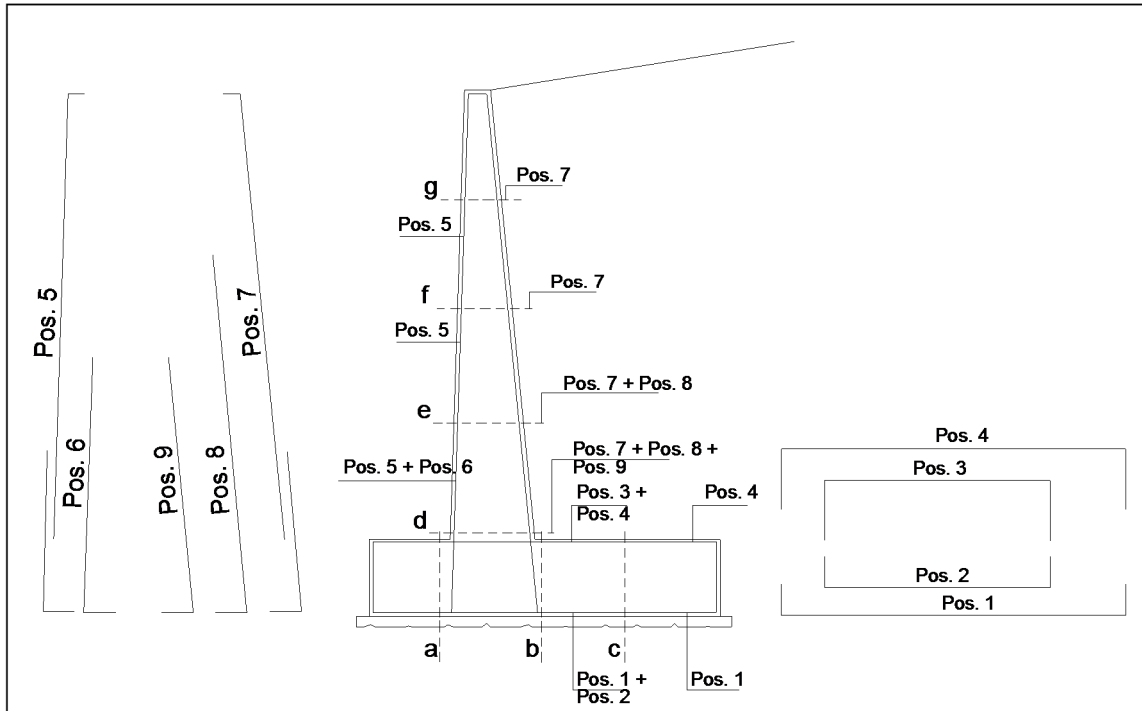
$N_{pp+inerzia} = \sum P m_i \cdot (1 \pm kv)$

condizione statica

sezione	h [m]	M _t [kNm/m]	M _q [kNm/m]	M _{ext} [kNm/m]	M _{tot} [kNm/m]	N _t [kN/m]	N _q [kN/m]	N _{ext} [kN/m]	N _{pp} [kN/m]	N _{tot} [kN/m]
d-d	2.90	26.72	42.94	0.00	69.65	8.71	9.34	0.00	29.00	47.05
e-e	2.18	11.27	24.15	0.00	35.42	4.90	7.00	0.00	21.75	33.65
f-f	1.45	3.34	10.73	0.00	14.07	2.18	4.67	0.00	14.50	21.35
g-g	0.73	0.42	2.68	0.00	3.10	0.54	2.33	0.00	7.25	10.13

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SCHEMA DELLE ARMATURE

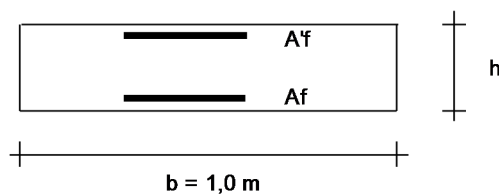


ARMATURE

pos	n°/ml	φ	pos	n°/ml	φ
1	5.0	14	5	5.0	12
2	5.0	0	6	0.0	0
3	5.0	12	7	5.0	14
4	5.0	14	8	5.0	0
			9	5.0	0

Calcola

VERIFICHE



- a-a pos 1-2-3-4
- b-b pos 1-2-3-4
- c-c pos 1-4
- d-d pos 5-6-7-8-9
- e-e pos 5-7-8
- f-f pos 5-7
- g-g pos 5-7

Sez.	M (kNm)	N (kN)	h (m)	Af (cm ²)	Af' (cm ²)	Mu (kNm)
(-)						
a - a	4.48	0.00	0.40	7.70	13.35	110.49
b - b	-123.77	0.00	0.40	13.35	7.70	174.58
c - c	-46.92	0.00	0.40	7.70	7.70	109.08
d - d	69.65	47.05	0.40	7.70	5.65	115.43
e - e	35.42	33.65	0.40	7.70	5.65	113.28
f - f	14.07	21.35	0.40	7.70	5.65	111.30
g - g	3.10	10.13	0.40	7.70	5.65	109.50

coefficienti parziali

U	Ø	caso	azioni		proprietà del terreno		
			permanenti sfavorevoli	temporane e variabili sfavorevoli	tan φ'	c'	c _u
	○	caso A1+M1	1.40	1.50	1.00	1.00	1.00
	●	caso A2+M2	1.00	1.30	1.25	1.25	1.40
SLD	○	–	1.00	1.00	1.25	1.25	1.40
def.	○	–	1.00	1.00	1.00	1.00	1.00

Dati Geotecnici (usati per verifiche di stabilità e SLU)

Dati	Descrizione	Simbolo	Valore	Unità	Normativa		
Terrapieno	Angolo di attrito del terrapieno	φ'	=	29.26	(°)		
	Peso Unità di Volume del terrapieno	γ	=	20.00	(kN/m ³)		
	Angolo di Inclinazione Piano di Campagna	ε	=	0.00	(°)		
	Angolo di attrito terreno-paramento	δ _{muro}	=	14.63	(°)		
	Angolo di attrito terreno-superficie ideale	δ _{sup id}	=	14.63	(°)		
Fondazione	Coesione Terreno di Fondazione	c1'	=	4.00	(kN/m ²)		
	Angolo di attrito del Terreno di Fondazione	φ _i '	=	22.61	(°)		
	Peso Unità di Volume del Terreno di Fondazione	γ _i	=	19.50	(kN/m ³)		
	Peso Unità di Volume del Rinterro della Fondazione	γ _d	=	20.00	(kN/m ³)		
	Profondità Piano di Posa della Fondazione	H2'	=	1.60	(m)		
	Profondità Falda	Z _w	=	100.00	(m)		
Coefficienti di Spinta	Coeff. di Spinta Attiva sulla superficie ideale	ka	=	0.31	(-)	Valori di Normativa	
	Coeff. Di Spinta Attiva Sismica sulla superficie ideale	kas+	=	0.43	(-)		0.425
	Coeff. Di Spinta Attiva Sismica sulla superficie ideale	kas-	=	0.45	(-)		0.452
	Coeff. Di Spinta Passiva in Fondazione	kp	=	2.25	(-)		2.249
	Coeff. Di Spinta Passiva Sismica in Fondazione	kps+	=	1.99	(-)		1.991
	Coeff. Di Spinta Passiva Sismica in Fondazione	kps-	=	1.94	(-)		1.937

Carichi Agenti (usati per verifiche di stabilità e allo SLU)

Condizioni	Descrizione	Simbolo	Valore	Unità
Statiche	Sovraccarico Accidentale in condizioni statiche	q	=	37.70 (kN/m ²)
	Forza Orizzontale in Testa in condizioni statiche	f	=	0.00 (kN/m)
	Forza Verticale in Testa in condizioni statiche	v	=	0.00 (kN/m)
	Momento in Testa in condizioni statiche	m	=	0.00 (kNm/m)
Sismiche	Sovraccarico Accidentale in condizioni sismiche	qs	=	11.70 (kN/m ²)
	Forza Orizzontale in Testa in condizioni sismiche	fs	=	0.00 (kN/m)
	Forza Verticale in Testa in condizioni sismiche	vs	=	0.00 (kN/m)
	Momento in Testa in condizioni sismiche	ms	=	0.00 (kNm/m)

VERIFICHE GEOTECNICHE

FORZE VERTICALI

- Peso del Muro (Pm)

$$Pm1 = (B2 \cdot H3 \cdot \gamma_{cls}) / 2 = 0.00 \text{ (kN/m)}$$

$$Pm2 = (B3 \cdot H3 \cdot \gamma_{cls}) = 29.00 \text{ (kN/m)}$$

$$Pm3 = (B4 \cdot H3 \cdot \gamma_{cls}) / 2 = 0.00 \text{ (kN/m)}$$

$$Pm4 = (B \cdot H2 \cdot \gamma_{cls}) = 27.00 \text{ (kN/m)}$$

$$Pm5 = (Bd \cdot Hd \cdot \gamma_{cls}) = 0.00 \text{ (kN/m)}$$

$$Pm = Pm1 + Pm2 + Pm3 + Pm4 + Pm5 = 56.00 \text{ (kN/m)}$$

- Peso del terreno sulla scarpa di monte del muro (Pt)

$$Pt1 = (B5 \cdot H3 \cdot \gamma) = 116.00 \text{ (kN/m)}$$

$$Pt2 = (0,5 \cdot (B4 + B5) \cdot H4 \cdot \gamma) = 0.00 \text{ (kN/m)}$$

$$Pt3 = (B4 \cdot H3 \cdot \gamma) / 2 = 0.00 \text{ (kN/m)}$$

$$Pt = Pt1 + Pt2 + Pt3 = 116.00 \text{ (kN/m)}$$

MOMENTI DELLE FORZE VERT. RISPETTO AL PIEDE DI VALLE DEL MURO

- Muro (Mm)

$$Mm1 = Pm1 \cdot (B1 + 2/3 \cdot B2) = 0.00 \text{ (kNm/m)}$$

$$Mm2 = Pm2 \cdot (B1 + B2 + 0,5 \cdot B3) = 14.50 \text{ (kNm/m)}$$

$$Mm3 = Pm3 \cdot (B1 + B2 + B3 + 1/3 \cdot B4) = 0.00 \text{ (kNm/m)}$$

$$Mm4 = Pm4 \cdot (B/2) = 36.45 \text{ (kNm/m)}$$

$$Mm5 = Pm5 \cdot (B - Bd/2) = 0.00 \text{ (kNm/m)}$$

$$Mm = Mm1 + Mm2 + Mm3 + Mm4 + Mm5 = 50.95 \text{ (kNm/m)}$$

- Terrapieno a tergo del muro

$$Mt1 = Pt1 \cdot (B1 + B2 + B3 + B4 + 0,5 \cdot B5) = 197.20 \text{ (kNm/m)}$$

$$Mt2 = Pt2 \cdot (B1 + B2 + B3 + 2/3 \cdot (B4 + B5)) = 0.00 \text{ (kNm/m)}$$

$$Mt3 = Pt3 \cdot (B1 + B2 + B3 + 2/3 \cdot B4) = 0.00 \text{ (kNm/m)}$$

$$Mt = Mt1 + Mt2 + Mt3 = 197.20 \text{ (kNm/m)}$$

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CONDIZIONE STATICA (SLU A2-M2)
SPINTE DEL TERRENO E DEL SOVRACCARICO

- Spinta totale condizione statica

$$St = 0,5 \cdot \gamma \cdot (H2+H3+H4+Hd)^2 \cdot ka = 33.81 \text{ (kN/m)}$$

$$Sq = q \cdot (H2+H3+H4+Hd) \cdot ka = 38.63 \text{ (kN/m)}$$

- Componente orizzontale condizione statica

$$Sth = St \cdot \cos \delta = 32.72 \text{ (kN/m)}$$

$$Sqh = Sq \cdot \cos \delta = 37.38 \text{ (kN/m)}$$

- Componente verticale condizione statica

$$Stv = St \cdot \sin \delta = 8.54 \text{ (kN/m)}$$

$$Sqv = Sq \cdot \sin \delta = 9.76 \text{ (kN/m)}$$

- Spinta passiva sul dente

$$Sp = \frac{1}{2} \cdot \gamma_1 \cdot Hd^2 \cdot kp + (2 \cdot c_1 \cdot kp^{0.5} + \gamma_1 \cdot kp \cdot H2) \cdot Hd = 0.00 \text{ (kN/m)}$$

MOMENTI DELLA SPINTA DEL TERRENO E DEL SOVRACCARICO

- Condizione statica

$$MSt1 = Sth \cdot (H2+H3+H4+Hd) / 3 - Hd = 35.99 \text{ (kN/m)}$$

$$MSt2 = Stv \cdot B = 23.06 \text{ (kN/m)}$$

$$MSq1 = Sqh \cdot (H2+H3+H4+Hd) / 2 - Hd = 61.67 \text{ (kN/m)}$$

$$MSq2 = Sqv \cdot B = 26.34 \text{ (kN/m)}$$

$$MSp = \gamma_1 \cdot Hd^3 \cdot kp / 3 + (2 \cdot c_1 \cdot kp^{0.5} + \gamma_1 \cdot kp \cdot H2) \cdot Hd^2 / 2 = 0.00 \text{ (kN/m)}$$

MOMENTI DOVUTI ALLE FORZE ESTERNE

$$Mfext1 = m = 0.00 \text{ (kNm/m)}$$

$$Mfext2 = f \cdot (H3 + H2) = 0.00 \text{ (kNm/m)}$$

$$Mfext3 = v \cdot (B1 + B2 + B3/2) = 0.00 \text{ (kNm/m)}$$

VERIFICA ALLO SCORRIMENTO

Risultante forze verticali (N)

$$N = Pm + Pt + v + Stv + Sqv = 190.29 \text{ (kN/m)}$$

Risultante forze orizzontali (T)

$$T = Sth + Sqh + f = 70.09 \text{ (kN/m)}$$

Coefficiente di attrito alla base (f)

$$f = \tan \phi_1' = 0.42 \text{ (-)}$$

$$Fs = (N \cdot f + c_1 \cdot B3 + Sp) / T = 1.32 \text{ (-)}$$

VERIFICA AL RIBALTAMENTO

Momento stabilizzante (Ms)

$$Ms = Mm + Mt + MSt2 + MSq2 + Mfext3 = 297.55 \text{ (kNm/m)}$$

Momento ribaltante (Mr)

$$Mr = MSt1 + MSq1 + Mfext1 + Mfext2 + MSp = 97.66 \text{ (kNm/m)}$$

$$Fr = Ms / Mr = 3.05 \text{ (-)}$$

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VERIFICA DELLA FONDAZIONE

Risultante forze verticali (N)
 $N = P_m + P_t + v + St_v + S_{qv} = 190.29 \text{ (kN/m)}$

Risultante forze orizzontali (T)
 $T = S_{th} + S_{qh} + f - Sp = 70.09 \text{ (kN/m)}$

Risultante dei momenti rispetto al piede di valle (MM)
 $MM = M_s - M_r = 199.89 \text{ (kNm/m)}$

Momento rispetto al baricentro della fondazione (M)
 $M = X_c \cdot N - MM = 57.01 \text{ (kNm/m)}$

Formula Generale per il Calcolo del Carico Limite Unitario (Brinch-Hansen, 1970)

Fondazione Nastriforme

$$q_{lim} = c \cdot N_c \cdot i_c + q_0 \cdot N_q \cdot i_q + 0,5 \cdot \gamma \cdot 1 \cdot B \cdot N_\gamma \cdot i_\gamma$$

c_1'	coesione terreno di fondaz.	=	4.00	(kPa)
ϕ_1'	angolo di attrito terreno di fondaz.	=	22.61	(°)
γ_1	peso unità di volume terreno fondaz.	=	19.50	(kN/m ³)
$q_0 = \gamma \cdot d \cdot H_2'$	sovraccarico stabilizzante	=	32.00	(kN/m ²)
$e = M / N$	eccentricità	=	0.30	(m)
$B^* = B - 2e$	larghezza equivalente	=	2.10	(m)

I valori di N_c , N_q e N_γ sono stati valutati con le espressioni suggerite da Vesic (1975)

$N_q = \text{tg}^2(45 + \phi/2) \cdot e^{(\pi \cdot \text{tg}(\phi))}$	(1 in cond. nd)	=	8.32	(-)
$N_c = (N_q - 1) / \text{tg}(\phi)$	(2+ π in cond. nd)	=	17.58	(-)
$N_\gamma = 2 \cdot (N_q + 1) \cdot \text{tg}(\phi)$	(0 in cond. nd)	=	7.76	(-)

I valori di i_c , i_q e i_γ sono stati valutati con le espressioni suggerite da Vesic (1975)

$i_q = (1 - T / (N + B \cdot c \cdot \text{cotg}(\phi)))^m$	(1 in cond. nd)	=	0.44	(-)
$i_c = i_q - (1 - i_q) / (N_q - 1)$		=	0.37	(-)
$i_\gamma = (1 - T / (N + B \cdot c \cdot \text{cotg}(\phi)))^{m+1}$		=	0.30	(-)

(fondazione nastriforme $m = 2$)

$q_{lim} \text{ (carico limite unitario)} = 191.60 \text{ (kN/m}^2\text{)}$

$F = q_{lim} \cdot B^* / N = 2.12 \text{ (-)}$

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CALCOLI STATICI - Verifica allo Stato Limite Ultimo

CARATTERISTICHE DEI MATERIALI

Calcestruzzo

R_{ck} = 40 (MPa)
 $\gamma_c = 1.9$
 $f_{cd} = R_{ck} / \gamma_{m,c} = 21.05$ (MPa)

Copriferro

c = 6.10 (cm)

Acciaio

tipo di acciaio B450C
 $f_{yk} = 450$ (MPa)
 $\gamma_E = 1.00$
 $\gamma_S = 1.15$
 $f_{yd} = f_{yk} / \gamma_S / \gamma_E = 391.30$ (MPa)
 $E_s = 210000$ (MPa)
 $\epsilon_{ys} = 0.19\%$
 $\epsilon_{uk} = 3.000\%$
 $\epsilon_{ud} = 2.700\%$

CALCOLO SOLLECITAZIONI SOLETTA DI FONDAZIONE

Reazione del terreno

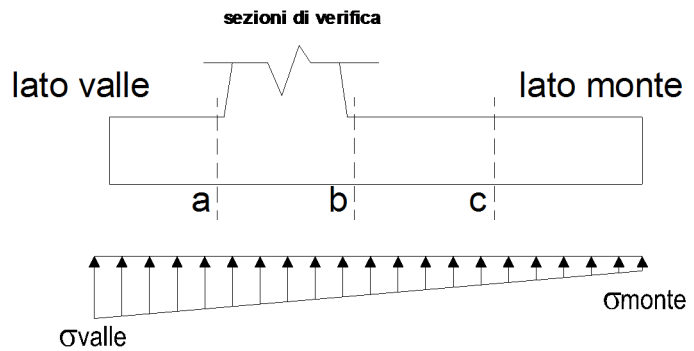
$\sigma_{valle} = N / A + M / W_{gg}$

$\sigma_{monte} = N / A - M / W_{gg}$

$A = 1.0 \cdot B = 2.70$ (m²)

$W_{gg} = 1.0 \cdot B^2 / 6 = 1.22$ (m³)

caso	N	M	σ_{valle}	σ_{monte}
	[kN]	[kNm]	[kN/m ²]	[kN/m ²]
statico	190.29	57.01	117.40	23.56

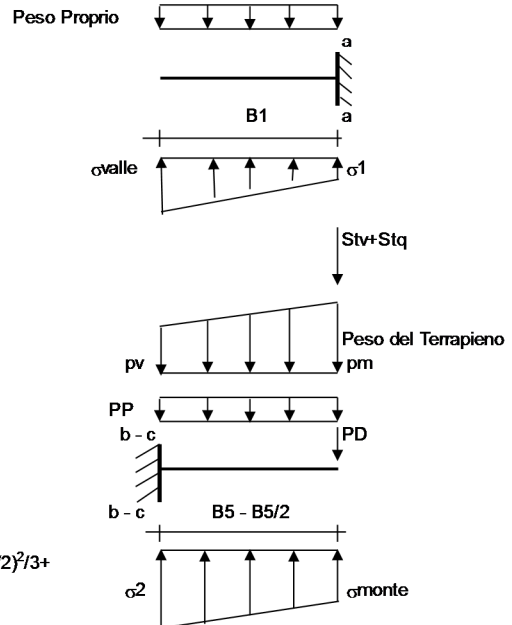


Mensola Lato Valle

Peso Proprio. PP = 10.00 (kN/m)

$M_a = \sigma_1 \cdot B^2 / 2 + (\sigma_{valle} - \sigma_1) \cdot B^2 / 3 - PP \cdot B^2 / 2 \cdot (1 \pm kv)$

caso	σ_{valle}	σ_1	M _a	T _a
	[kN/m ²]	[kN/m ²]	[kNm]	[kN]
statico	117.40	106.98	4.68	30.66



Mensola Lato Monte

PP = 10.00 (kN/m²)
 PD = 0.00 (kN/m) peso proprio soletta fondazione peso proprio dente

p_m = 58.00 (kN/m²)
 p_{vb} = 58.00 (kN/m²)
 p_{vc} = 58.00 (kN/m²)

$M_b = (\sigma_{monte} - (p_{vb} + PP) \cdot (1 \pm kv)) \cdot B^2 / 2 + (\sigma_{2b} - \sigma_{monte}) \cdot B^2 / 6 - (p_m - p_{vb}) \cdot (1 \pm kv) \cdot B^2 / 3 + (St_v + Sq_v) \cdot B^2 \cdot PD \cdot (1 \pm kv) \cdot (B_5 - Bd / 2) - PD \cdot kh \cdot (H_d + H_2 / 2) + M_{sp} + Sp \cdot H_2 / 2$

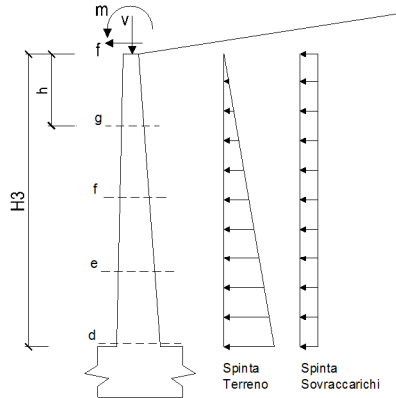
$M_c = (\sigma_{monte} - (p_{vc} + PP) \cdot (1 \pm kv)) \cdot (B_5 / 2)^2 / 2 + (\sigma_{2c} - \sigma_{monte}) \cdot (B_5 / 2)^2 / 6 - (p_m - p_{vc}) \cdot (1 \pm kv) \cdot (B_5 / 2)^2 / 3 + (St_v + Sq_v) \cdot (B_5 / 2) \cdot PD \cdot (1 \pm kv) \cdot (B_5 / 2 - Bd / 2) - PD \cdot kh \cdot (H_d + H_2 / 2) + M_{sp} + Sp \cdot H_2 / 2$

caso	σ_{monte}	σ_{2b}	M _b	σ_{2c}	M _c	T _b
	[kN/m ²]	[kN/m ²]	[kNm]	[kN/m ²]	[kNm]	[kN]
statico	23.56	93.07	-79.13	58.31	-34.72	-37.67

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CALCOLO SOLLECITAZIONI PARAMENTO VERTICALE DEL MURO

Azioni sulla parete e Sezioni di Calcolo



Dati Sismici	Accelerazione sismica	a_g/g	=	0.28	(-)	
	Categoria di suolo	S	=	1.25	(-)	
	il muro ammette spostamenti? (si/no)		<input checked="" type="radio"/> si	<input type="radio"/> no	r = 2	
	coefficiente sismico orizzontale	kh	=	0.1719	(-)	
	coefficiente sismico verticale	kv	=	0.0859	(-)	
Coefficienti di Spinta	Coeff. di Spinta Attiva sulla parete	ka	=	0.31	(-)	0.310
	componente orizzontale	kah	=	0.300	(-)	
	componente verticale	kav	=	0.08	(-)	
	Coeff. Di Spinta Attiva Sismica sulla parete	kas+	=	0.43	(-)	0.425
	componente orizzontale	kash+	=	0.41	(-)	
	componente verticale	kasv+	=	0.11	(-)	
Coeff. Di Spinta Attiva Sismica sulla parete	kas-	=	0.45	(-)	0.452	
componente orizzontale	kash-	=	0.44	(-)		
componente verticale	kasv-	=	0.11	(-)		

$M_t = \frac{1}{2} K_{a_{orizz.}} \cdot \gamma \cdot (1 \pm kv) \cdot h^2 \cdot h/3$ o $\frac{1}{2} K_{a_{orizz.}} \cdot \gamma \cdot (1 \pm kv) \cdot h^2 \cdot h/2$ (con sisma)

$M_q = \frac{1}{2} K_{a_{orizz.}} \cdot q \cdot h^2$

$M_{ext} = m \cdot h$

$M_{inerzia} = \sum P m_i \cdot b_i \cdot kh$ (solo con sisma)

condizione statica

sezione	h [m]	Tt [kN/m]	Tq [kN/m]	T _{ext} [kN/m]	T _{tot} [kN/m]
d-d	2.90	25.27	32.85	0.00	58.11
e-e	2.18	14.21	24.63	0.00	38.85
f-f	1.45	6.32	16.42	0.00	22.74
g-g	0.73	1.58	8.21	0.00	9.79

$N_t = \frac{1}{2} K_{a_{vert.}} \cdot \gamma \cdot (1 \pm kv) \cdot h^2$

$N_q = K_{a_{vert.}} \cdot q \cdot h$

$N_{ext} = v$

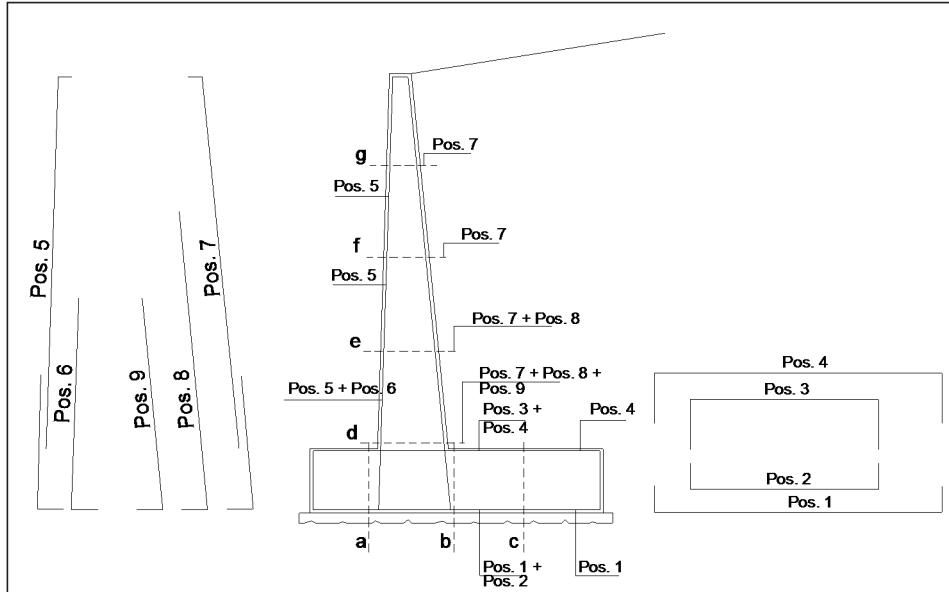
$N_{pp+inerzia} = \sum P m_i \cdot (1 \pm kv)$

condizione statica

sezione	h [m]	Mt [kNm/m]	Mq [kNm/m]	M _{ext} [kNm/m]	M _{tot} [kNm/m]	Nt [kN/m]	Nq [kN/m]	N _{ext} [kN/m]	N _{pp} [kN/m]	N _{tot} [kN/m]
d-d	2.90	24.42	47.63	0.00	72.05	6.59	8.57	0.00	29.00	44.17
e-e	2.18	10.30	26.79	0.00	37.09	3.71	6.43	0.00	21.75	31.89
f-f	1.45	3.05	11.91	0.00	14.96	1.65	4.29	0.00	14.50	20.44
g-g	0.73	0.38	2.98	0.00	3.36	0.41	2.14	0.00	7.25	9.81

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SCHEMA DELLE ARMATURE

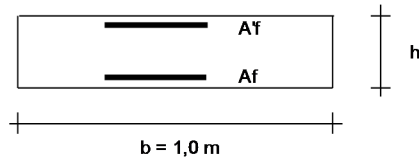


ARMATURE

pos	n°/ml	φ	pos	n°/ml	φ
1	5.0	14	5	5.0	12
2	5.0	0	6	0.0	0
3	5.0	12	7	5.0	14
4	5.0	14	8	5.0	0
			9	5.0	0

Calcola

VERIFICHE



- a-a pos 1-2-3-4
- b-b pos 1-2-3-4
- c-c pos 1-4
- d-d pos 5-6-7-8-9
- e-e pos 5-7-8
- f-f pos 5-7
- g-g pos 5-7

Sez.	M	N	h	Af	A'f	Mu
(-)	(kNm)	(kN)	(m)	(cm ²)	(cm ²)	(kNm)
a - a	4.68	0.00	0.40	7.70	13.35	111.28
b - b	-79.13	0.00	0.40	13.35	7.70	173.57
c - c	-34.72	0.00	0.40	7.70	7.70	109.64
d - d	72.05	44.17	0.40	7.70	5.65	115.36
e - e	37.09	31.89	0.40	7.70	5.65	113.49
f - f	14.96	20.44	0.40	7.70	5.65	111.71
g - g	3.36	9.81	0.40	7.70	5.65	110.03

coefficienti parziali

SLD	def.	caso	azioni		proprietà del terreno		
			permanenti sfavorevoli	temporane e variabili sfavorevoli	tan φ'	c'	c _u
	<input type="radio"/>	caso A1+M1	1.40	1.50	1.00	1.00	1.00
	<input type="radio"/>	caso A2+M2	1.00	1.30	1.25	1.25	1.40
	<input checked="" type="radio"/>	Sismica	1.00	1.00	1.25	1.25	1.40
	<input type="radio"/>	–	1.00	1.00	1.00	1.00	1.00

Dati Geotecnici (usati per verifiche di stabilità e SLU)

Dati Terrapieno	Angolo di attrito del terrapieno	φ'	=	29.26	(°)		
	Peso Unità di Volume del terrapieno	γ	=	20.00	(kN/m ³)		
	Angolo di Inclinazione Piano di Campagna	ε	=	0.00	(°)		
	Angolo di attrito terreno-paramento	δ _{muro}	=	14.63	(°)		
	Angolo di attrito terreno-superficie ideale	δ _{sup id}	=	14.63	(°)		
Dati Terreno Fondazione	Coesione Terreno di Fondazione	c1'	=	4.00	(kN/m ²)		
	Angolo di attrito del Terreno di Fondazione	φ _i '	=	22.61	(°)		
	Peso Unità di Volume del Terreno di Fondazione	γ ₁	=	19.50	(kN/m ³)		
	Peso Unità di Volume del Rinterro della Fondazione	γ _d	=	20.00	(kN/m ³)		
	Profondità Piano di Posa della Fondazione	H2'	=	1.60	(m)		
	Profondità Falda	Z _w	=	100.00	(m)		
Coefficienti di Spinta	Coeff. di Spinta Attiva sulla superficie ideale	ka	=	0.31	(-)	0.310	Valori di Normativa
	Coeff. Di Spinta Attiva Sismica sulla superficie ideale	kas+	=	0.43	(-)	0.425	
	Coeff. Di Spinta Attiva Sismica sulla superficie ideale	kas-	=	0.45	(-)	0.452	
	Coeff. Di Spinta Passiva in Fondazione	kp	=	2.25	(-)	2.249	
	Coeff. Di Spinta Passiva Sismica in Fondazione	kps+	=	1.99	(-)	1.991	
	Coeff. Di Spinta Passiva Sismica in Fondazione	kps-	=	1.94	(-)	1.937	

Carichi Agenti (usati per verifiche di stabilità e allo SLU)

Condizioni Statiche	Sovraccarico Accidentale in condizioni statiche	q	=	29.00	(kN/m ²)
	Forza Orizzontale in Testa in condizioni statiche	f	=	0.00	(kN/m)
	Forza Verticale in Testa in condizioni statiche	v	=	0.00	(kN/m)
	Momento in Testa in condizioni statiche	m	=	0.00	(kNm/m)
Condizioni Sismiche	Sovraccarico Accidentale in condizioni sismiche	qs	=	9.00	(kN/m ²)
	Forza Orizzontale in Testa in condizioni sismiche	fs	=	0.00	(kN/m)
	Forza Verticale in Testa in condizioni sismiche	vs	=	0.00	(kN/m)
	Momento in Testa in condizioni sismiche	ms	=	0.00	(kNm/m)

VERIFICHE GEOTECNICHE
FORZE VERTICALI
- Peso del Muro (Pm)

Pm1 = (B2*H3*γ _{cls})/2	=	0.00	(kN/m)
Pm2 = (B3*H3*γ _{cls})	=	29.00	(kN/m)
Pm3 = (B4*H3*γ _{cls})/2	=	0.00	(kN/m)
Pm4 = (B*H2*γ _{cls})	=	27.00	(kN/m)
Pm5 = (Bd*Hd*γ _{cls})	=	0.00	(kN/m)
Pm = Pm1 + Pm2 + Pm3 + Pm4 + Pm5	=	56.00	(kN/m)

- Peso del terreno sulla scarpa di monte del muro (Pt)

Pt1 = (B5*H3*γ)	=	116.00	(kN/m)
Pt2 = (0,5*(B4+B5)*H4*γ)	=	0.00	(kN/m)
Pt3 = (B4*H3*γ)/2	=	0.00	(kN/m)
Pt = Pt1 + Pt2 + Pt3	=	116.00	(kN/m)

MOMENTI DELLE FORZE VERT. RISPETTO AL PIEDE DI VALLE DEL MURO
- Muro (Mm)

Mm1 = Pm1*(B1+2/3 B2)	=	0.00	(kNm/m)
Mm2 = Pm2*(B1+B2+0,5*B3)	=	14.50	(kNm/m)
Mm3 = Pm3*(B1+B2+B3+1/3 B4)	=	0.00	(kNm/m)
Mm4 = Pm4*(B/2)	=	36.45	(kNm/m)
Mm5 = Pm5*(B - Bd/2)	=	0.00	(kNm/m)
Mm = Mm1 + Mm2 + Mm3 + Mm4 + Mm5	=	50.95	(kNm/m)

- Terrapieno a tergo del muro

Mt1 = Pt1*(B1+B2+B3+B4+0,5*B5)	=	197.20	(kNm/m)
Mt2 = Pt2*(B1+B2+B3+2/3*(B4+B5))	=	0.00	(kNm/m)
Mt3 = Pt3*(B1+B2+B3+2/3*B4)	=	0.00	(kNm/m)
Mt = Mt1 + Mt2 + Mt3	=	197.20	(kNm/m)

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CONDIZIONE SISMICA +

SPINTE DEL TERRENO E DEL SOVRACCARICO

- Spinta totale condizione sismica +			
Sst1 =	$0,5 \cdot \gamma \cdot (1+k_v) \cdot (H_2+H_3+H_4+H_d) \cdot k_{as}^*$	=	50.31 (kN/m)
Ssq1 =	$q_s \cdot (H_2+H_3+H_4+H_d) \cdot k_{as}^*$	=	12.64 (kN/m)
- Componente orizzontale condizione sismica +			
Sst1h =	$Sst1 \cdot \cos \delta$	=	48.68 (kN/m)
Ssq1h =	$Ssq1 \cdot \cos \delta$	=	12.23 (kN/m)
- Componente verticale condizione sismica +			
Sst1v =	$Sst1 \cdot \sin \delta$	=	12.71 (kN/m)
Ssq1v =	$Ssq1 \cdot \sin \delta$	=	3.19 (kN/m)
- Spinta passiva sul dente			
Sp =	$\frac{1}{2} \cdot \gamma_1 \cdot (1+k_v) \cdot H_d^2 \cdot k_{ps}^* + (2 \cdot c_1 \cdot k_{ps}^{*0.5} + \gamma_1 \cdot (1+k_v) \cdot k_{ps}^* \cdot H_2) \cdot H_d$	=	0.00 (kN/m)

MOMENTI DELLA SPINTA DEL TERRENO E DEL SOVRACCARICO

- Condizione sismica +			
MSst1 =	$Sst1h \cdot ((H_2+H_3+H_4+H_d)/3 - H_d)$	=	53.55 (kNm)
MSst2 =	$Sst1v \cdot B$	=	34.31 (kNm)
MSsq1 =	$Ssq1h \cdot ((H_2+H_3+H_4+H_d)/2 - H_d)$	=	20.17 (kNm)
MSsq2 =	$Ssq1v \cdot B$	=	8.62 (kNm)
MSp =	$\gamma_1 \cdot H_d^3 \cdot k_{ps}^*/3 + (2 \cdot c_1 \cdot k_{ps}^{*0.5} + \gamma_1 \cdot k_{ps}^* \cdot H_2) \cdot H_d^2/2$	=	0.00 (kNm)

INERZIA DEL MURO E DEL TERRAPIENO

- Inerzia del muro (Ps)			
Ps =	$P_m \cdot k_h$	=	9.63 (kN/m)
- Inerzia orizzontale e verticale del terrapieno a tergo del muro (Pts)			
Ptsh =	$P_t \cdot k_h$	=	19.94 (kN/m)
Ptsv =	$P_t \cdot k_v$	=	9.97 (kN/m)
- Incremento di momento dovuto all'inerzia del muro (MPs)			
MPs1 =	$k_h \cdot P_m \cdot 1 \cdot (H_2+H_3/3)$	=	0.00 (kNm/m)
MPs2 =	$k_h \cdot P_m \cdot 2 \cdot (H_2 + H_3/2)$	=	9.22 (kNm/m)
MPs3 =	$k_h \cdot P_m \cdot 3 \cdot (H_2+H_3/3)$	=	0.00 (kNm/m)
MPs4 =	$k_h \cdot P_m \cdot 4 \cdot (H_2/2)$	=	0.93 (kNm/m)
MPs5 =	$-k_h \cdot P_m \cdot 5 \cdot (H_d/2)$	=	0.00 (kNm/m)
MPs =	$MPs1+MPs2+MPs3+MPs4+MPs5$	=	10.15 (kNm/m)
- Incremento di momento dovuto all'inerzia del terrapieno (MPts)			
MPts1 =	$k_h \cdot P_t \cdot 1 \cdot ((H_2 + H_3/2) - (B - B_5/2) \cdot 0.5)$	=	19.94 (kNm/m)
MPts2 =	$k_h \cdot P_t \cdot 2 \cdot ((H_2 + H_3 + H_4/3) - (B - B_5/3) \cdot 0.5)$	=	0.00 (kNm/m)
MPts3 =	$k_h \cdot P_t \cdot 3 \cdot ((H_2+H_3 \cdot 2/3) - (B_1+B_2+B_3+2/3 \cdot B_4) \cdot 0.5)$	=	0.00 (kNm/m)
MPts =	$MPts1 + MPts2 + MPts3$	=	19.94 (kNm/m)

MOMENTI DOVUTI ALLE FORZE ESTERNE

Mfext1 =	ms	=	0.00 (kNm/m)
Mfext2 =	$f_s \cdot (H_3 + H_2)$	=	0.00 (kNm/m)
Mfext3 =	$v_s \cdot (B_1 + B_2 + B_3/2)$	=	0.00 (kNm/m)

VERIFICA ALLO SCORRIMENTO

Risultante forze verticali (N)			
N =	$P_m + P_t + v_s + Sst1v + Ssq1v + Ptsv$	=	197.87 (kN/m)
Risultante forze orizzontali (T)			
T =	$Sst1h + Ssq1h + f_s + P_s + Ptsh$	=	90.47 (kN/m)
Coefficiente di attrito alla base (f)			
f =	$tg \phi_1'$	=	0.42 (-)
Fs =	$(N \cdot f + c_1 \cdot B_3 + Sp) / T$	=	1.06 (-)

VERIFICA AL RIBALTAMENTO

Momento stabilizzante (Ms)			
Ms =	$M_m + M_t + MSst2 + MSsq2 + Mfext3$	=	291.07 (kNm/m)
Momento ribaltante (Mr)			
Mr =	$MSst1 + MSsq1 + Mfext1 + Mfext2 + MSp + MP_s + MPts$	=	103.81 (kNm/m)
Fr =	Ms / Mr	=	2.80 (-)

	2.1.1 – PEDEMONTANA DELLE MARCHE – Lotto funzionale del Sub Lotto 2.1 Tratto Fabriano-Matelica Nord Opere d'arte minori: opere di attraversamento Sistemazione viabilità interferita al km 6+168 Tombino Ø 1500 mm a Pr. 0+256,50 - Relazione di calcolo							
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VERIFICA DELLA FONDAZIONE

Risultante forze verticali (N)

$$N = P_m + P_t + v_s + S_{st1v} + S_{sq1v} + P_{tsv} = 197.87 \quad (\text{kN/m})$$

Risultante forze orizzontali (T)

$$T = S_{st1h} + S_{sq1h} + f_s + P_s + P_{tsh} - S_p = 90.47 \quad (\text{kN/m})$$

Risultante dei momenti rispetto al piede di valle (MM)

$$MM = M_s - M_r = 187.26 \quad (\text{kNm/m})$$

Momento rispetto al baricentro della fondazione (M)

$$M = X_c \cdot N - MM = 79.86 \quad (\text{kNm/m})$$

Formula Generale per il Calcolo del Carico Limite Unitario (Brinch-Hansen, 1970)

Fondazione Nastriforme

$$q_{lim} = c' \cdot N_c \cdot i_c + q_0 \cdot N_q \cdot i_q + 0,5 \cdot \gamma_1 \cdot B^* \cdot N_\gamma \cdot i_\gamma$$

$$c' = \text{coesione terreno di fondaz.} = 4.00 \quad (\text{kN/mq})$$

$$\varphi_1' = \text{angolo di attrito terreno di fondaz.} = 22.61 \quad (^\circ)$$

$$\gamma_1 = \text{peso unità di volume terreno fondaz.} = 19.50 \quad (\text{kN/m}^3)$$

$$q_0 = \gamma \cdot d \cdot H_2' \text{ sovraccarico stabilizzante} = 32.00 \quad (\text{kN/m}^2)$$

$$e = M / N \text{ eccentricità} = 0.40 \quad (\text{m})$$

$$B^* = B - 2e \text{ larghezza equivalente} = 1.89 \quad (\text{m})$$

I valori di N_c , N_q e N_γ sono stati valutati con le espressioni suggerite da Vesic (1975)

$$N_q = \text{tg}^2(45 + \varphi'/2) \cdot e^{(\pi \cdot \text{tg}(\varphi'))} \quad (1 \text{ in cond. nd}) = 8.32 \quad (-)$$

$$N_c = (N_q - 1) / \text{tg}(\varphi') \quad (2 + \pi \text{ in cond. nd}) = 17.58 \quad (-)$$

$$N_\gamma = 2 \cdot (N_q + 1) \cdot \text{tg}(\varphi') \quad (0 \text{ in cond. nd}) = 7.76 \quad (-)$$

I valori di i_c , i_q e i_γ sono stati valutati con le espressioni suggerite da Vesic (1975)

$$i_q = (1 - T / (N + B^* \cdot c' \cdot \text{cotg}(\varphi')))^m \quad (1 \text{ in cond. nd}) = 0.34 \quad (-)$$

$$i_c = i_q - (1 - i_q) / (N_q - 1) = 0.25 \quad (-)$$

$$i_\gamma = (1 - T / (N + B^* \cdot c' \cdot \text{cotg}(\varphi')))^{m+1} = 0.20 \quad (-)$$

(fondazione nastriforme $m = 2$)

$$q_{lim} \quad (\text{carico limite unitario}) = 135.50 \quad (\text{kN/m}^2)$$

$$F = q_{lim} \cdot B^* / N = 1.30 \quad (-)$$

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CONDIZIONE SISMICA -

SPINTE DEL TERRENO E DEL SOVRACCARICO

- Spinta totale condizione sismica -

Sst2 =	$0,5 \cdot \gamma \cdot (1-kv) \cdot (H2+H3+H4+Hd) \cdot kas'$	=	45.04	(kN/m)
Ssq2 =	$qs \cdot (H2+H3+H4+Hd) \cdot kas'$	=	13.44	(kN/m)

- Componente orizzontale condizione sismica -

Sst2h =	$Sst2 \cdot \cos \delta$	=	43.58	(kN/m)
Ssq2h =	$Ssq2 \cdot \cos \delta$	=	13.00	(kN/m)

- Componente verticale condizione sismica -

Sst2v =	$Sst2 \cdot \sin \delta$	=	11.37	(kN/m)
Ssq2v =	$Ssq2 \cdot \sin \delta$	=	3.39	(kN/m)

- Spinta passiva sul dete

$Sp = \frac{1}{2} \cdot \gamma_1 \cdot (1-kv) \cdot Hd^2 \cdot kps' + (2 \cdot c_1 \cdot kps'^{-0.5} + \gamma_1 \cdot (1-kv) \cdot kps' \cdot H2) \cdot Hd$	=	0.00	(kN/m)
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MOMENTI DELLA SPINTA DEL TERRENO E DEL SOVRACCARICO

- Condizione sismica -

MSst1 =	$Sst2h \cdot ((H2+H3+H4+Hd)/3-Hd)$	=	47.94	(kN/m)
MSst2 =	$Sst2v \cdot B$	=	30.71	(kN/m)
MSsq1 =	$Ssq2h \cdot ((H2+H3+H4+Hd)/2-Hd)$	=	21.45	(kN/m)
MSsq2 =	$Ssq2v \cdot B$	=	9.16	(kN/m)
MSP =	$\gamma_1 \cdot Hd^3 \cdot kps' / 3 + (2 \cdot c_1 \cdot kps'^{-0.5} + \gamma_1 \cdot kps' \cdot H2) \cdot Hd^2 / 2$	=	0.00	(kN/m)

INERZIA DEL MURO E DEL TERRAPIENO

- Inerzia del muro (Ps)

Ps =	$Pm \cdot kh$	=	9.63	(kN/m)
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- Inerzia orizzontale e verticale del terrapieno a tergo del muro (Pts)

Ptsh =	$Pt \cdot kh$	=	19.94	(kN/m)
Ptsv =	$Pt \cdot kv$	=	-9.97	(kN/m)

- Incremento di momento dovuto all'inerzia del muro (MPs)

MPs1 =	$kh \cdot Pm \cdot (H2+H3/3)$	=	0.00	(kNm/m)
MPs2 =	$kh \cdot Pm^2 \cdot (H2 + H3/2)$	=	9.22	(kNm/m)
MPs3 =	$kh \cdot Pm^3 \cdot (H2+H3/3)$	=	0.00	(kNm/m)
MPs4 =	$kh \cdot Pm^4 \cdot (H2/2)$	=	0.93	(kNm/m)
MPs5 =	$-kh \cdot Pm^5 \cdot (Hd/2)$	=	0.00	(kNm/m)
MPs =	$MPs1+MPs2+MPs3+MPs4+MPs5$	=	10.15	(kNm/m)

- Incremento di momento dovuto all'inerzia del terrapieno (MPts)

MPts1 =	$kh \cdot Pt1 \cdot ((H2 + H3/2) + (B - B5/2) \cdot 0.5)$	=	53.83	(kNm/m)
MPts2 =	$kh \cdot Pt2 \cdot ((H2 + H3 + H4/3) + (B - B5/3) \cdot 0.5)$	=	0.00	(kNm/m)
MPts3 =	$kh \cdot Pt3 \cdot ((H2+H3^2/3)+(B1+B2+B3+2/3 \cdot B4) \cdot 0.5)$	=	0.00	(kNm/m)
MPts =	$MPts1 + MPts2 + MPts3$	=	53.83	(kNm/m)

MOMENTI DOVUTI ALLE FORZE ESTERNE

Mfext1 =	ms	=	0.00	(kNm/m)
Mfext2 =	$fs \cdot (H3 + H2)$	=	0.00	(kNm/m)
Mfext3 =	$vs \cdot (B1 + B2 + B3/2)$	=	0.00	(kNm/m)

VERIFICA ALLO SCORRIMENTO

Risultante forze verticali (N)

N =	$Pm + Pt + vs + Sst1v + Ssq1v + Ptsv$	=	176.80	(kN/m)
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Risultante forze orizzontali (T)

T =	$Sst1h + Ssq1h + fs + Ps + Ptsh$	=	86.15	(kN/m)
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Coefficiente di attrito alla base (f)

f =	$tg \phi_1'$	=	0.42	(-)
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Fs =	$(N \cdot f + c_1 \cdot B3 + Sp) / T$	=	1.01	(-)
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VERIFICA AL RIBALTAMENTO

Momento stabilizzante (Ms)

Ms =	$Mm + Mt + MSst2 + MSsq2 + Mfext3$	=	288.02	(kNm/m)
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Momento ribaltante (Mr)

Mr =	$MSst1 + MSsq1 + Mfext1 + Mfext2 + MSP + MPs + MPts$	=	133.37	(kNm/m)
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Fr =	Ms / Mr	=	2.16	(-)
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VERIFICA DELLA FONDAZIONE

Risultante forze verticali (N)

$$N = P_m + P_t + v_s + S_{st1v} + S_{sq1v} + P_{tsv} = 176.80 \quad (\text{kN/m})$$

Risultante forze orizzontali (T)

$$T = S_{st1h} + S_{sq1h} + f_s + P_s + P_{tsh} - S_p = 86.15 \quad (\text{kN/m})$$

Risultante dei momenti rispetto al piede di valle (MM)

$$MM = M_s - M_r = 154.65 \quad (\text{kNm/m})$$

Momento rispetto al baricentro della fondazione (M)

$$M = X_c \cdot N - MM = 84.03 \quad (\text{kNm/m})$$

Formula Generale per il Calcolo del Carico Limite Unitario (Brinch-Hansen, 1970)

Fondazione Nastriforme

$$q_{lim} = c' N_c i_c + q_0 N_q i_q + 0,5 \cdot \gamma_1 \cdot B \cdot N_\gamma i_\gamma$$

$$c' \quad \text{coesione terreno di fondaz.} = 4.00 \quad (\text{kN/mq})$$

$$\varphi' \quad \text{angolo di attrito terreno di fondaz.} = 22.61 \quad (^\circ)$$

$$\gamma_1 \quad \text{peso unità di volume terreno fondaz.} = 19.50 \quad (\text{kN/m}^3)$$

$$q_0 = \gamma \cdot d \cdot H_2' \quad \text{sovraccarico stabilizzante} = 32.00 \quad (\text{kN/m}^2)$$

$$e = M / N \quad \text{eccentricità} = 0.48 \quad (\text{m})$$

$$B^* = B - 2e \quad \text{larghezza equivalente} = 1.75 \quad (\text{m})$$

I valori di N_c , N_q e N_γ sono stati valutati con le espressioni suggerite da Vesic (1975)

$$N_q = \text{tg}^2(45 + \varphi'/2) \cdot e^{(\pi \cdot \text{tg}(\varphi'))} \quad (1 \text{ in cond. nd}) = 8.32 \quad (-)$$

$$N_c = (N_q - 1) / \text{tg}(\varphi') \quad (2 + \pi \text{ in cond. nd}) = 17.58 \quad (-)$$

$$N_\gamma = 2 \cdot (N_q + 1) \cdot \text{tg}(\varphi') \quad (0 \text{ in cond. nd}) = 7.76 \quad (-)$$

I valori di i_c , i_q e i_γ sono stati valutati con le espressioni suggerite da Vesic (1975)

$$i_q = (1 - T / (N + B \cdot c' \cdot \cotg(\varphi')))^m \quad (1 \text{ in cond. nd}) = 0.31 \quad (-)$$

$$i_c = i_q - (1 - i_q) / (N_q - 1) = 0.21 \quad (-)$$

$$i_\gamma = (1 - T / (N + B \cdot c' \cdot \cotg(\varphi')))^{m+1} = 0.17 \quad (-)$$

(fondazione nastriforme $m = 2$)

$$q_{lim} \quad (\text{carico limite unitario}) = 119.70 \quad (\text{kN/m}^2)$$

$$F = q_{lim} \cdot B^* / N = 1.18 \quad (-)$$

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CALCOLI STATICI - Verifica allo Stato Limite Ultimo

CARATTERISTICHE DEI MATERIALI

Calcestruzzo

Rok = 40 (MPa)
 $\gamma_c = 1.9$
 $f_{cd} = R_{ok} / \gamma_{m,c} = 21.05$ (MPa)

Copriferro

c = 5.70 (cm)

Acciaio

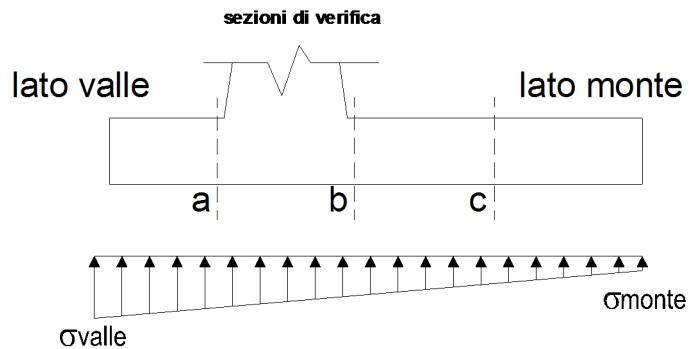
tipo di acciaio B450C
 $f_{yk} = 450$ (MPa)
 $\gamma_E = 1.00$
 $\gamma_S = 1.15$
 $f_{yd} = f_{yk} / \gamma_S / \gamma_E = 391.30$ (MPa)
 $E_s = 210000$ (MPa)
 $\epsilon_{ys} = 0.19\%$
 $\epsilon_{uk} = 3.000\%$
 $\epsilon_{ud} = 2.700\%$

CALCOLO SOLLECITAZIONI SOLETTA DI FONDAZIONE

Reazione del terreno

$\sigma_{valle} = N / A + M / W_{gg}$
 $\sigma_{monte} = N / A - M / W_{gg}$
 $A = 1.0 \cdot B = 2.70$ (m²)
 $W_{gg} = 1.0 \cdot B^2 / 6 = 1.22$ (m³)

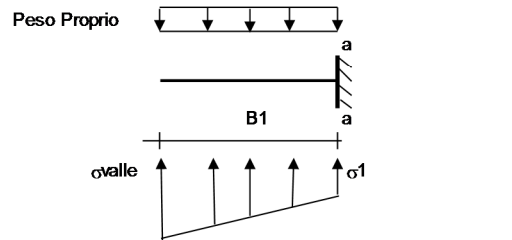
caso	N	M	σ_{valle}	σ_{monte}
	[kN]	[kNm]	[kN/m ²]	[kN/m ²]
sisma+	197.87	79.86	139.01	7.56
sisma-	176.80	84.03	134.75	0.00



Mensola Lato Valle

Peso Proprio. PP = 10.00 (kN/m)
 $M_a = \sigma_1 \cdot B^2 / 2 + (\sigma_{valle} - \sigma_1) \cdot B^2 / 3 - PP \cdot B^2 / 2 \cdot (1 \pm kv)$

caso	σ_{valle}	σ_1	Ma	Ta
	[kN/m ²]	[kN/m ²]	[kNm]	[kN]
sisma+	139.01	124.40	5.55	36.25
sisma-	134.75	119.34	5.42	34.60



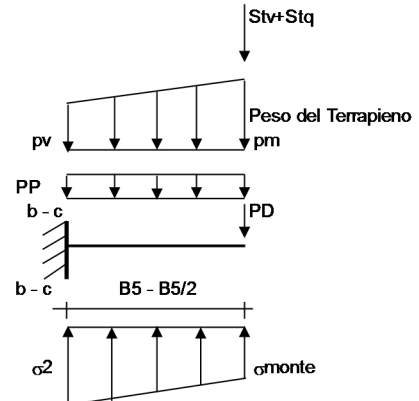
Mensola Lato Monte

PP = 10.00 (kN/m²)
 PD = 0.00 (kN/m)
 pm = 58.00 (kN/m²)
 pvb = 58.00 (kN/m²)
 pvc = 58.00 (kN/m²)
 peso proprio soletta fondazione
 peso proprio dente

$$M_b = (\sigma_{monte} - (pvb + PP) \cdot (1 \pm kv)) \cdot B^2 / 2 + (\sigma_{2c} - \sigma_{monte}) \cdot B^2 / 6 - (pm - pvb) \cdot (1 \pm kv) \cdot B^2 / 3 + (Stv + Sqv) \cdot B^2 - PD \cdot (1 \pm kv) \cdot (B^2 - Bd / 2) - PD \cdot kh \cdot (Hd + H2 / 2) + M_{sp} + Sp \cdot H2 / 2$$

$$M_c = (\sigma_{monte} - (pvc + PP) \cdot (1 \pm kv)) \cdot (B5 / 2)^2 / 2 + (\sigma_{2c} - \sigma_{monte}) \cdot (B5 / 2)^2 / 6 - (pm - pvc) \cdot (1 \pm kv) \cdot (B5 / 2)^2 / 3 + (Stv + Sqv) \cdot (B5 / 2) - PD \cdot (1 \pm kv) \cdot (B5 / 2 - Bd / 2) - PD \cdot kh \cdot (Hd + H2 / 2) + M_{sp} + Sp \cdot H2 / 2$$

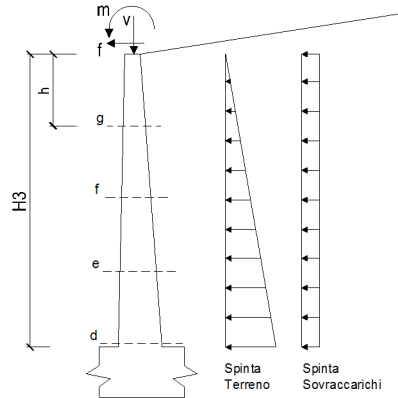
caso	σ_{monte}	σ_{2c}	Mb	σ_{2c}	Mc	Tb
	[kN/m ²]	[kN/m ²]	[kNm]	[kN/m ²]	[kNm]	[kN]
sisma+	7.56	104.93	-99.45	56.24	-40.93	-51.10
sisma-	0.00	98.80	-92.88	47.45	-39.09	-44.02



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CALCOLO SOLLECITAZIONI PARAMENTO VERTICALE DEL MURO

Azioni sulla parete e Sezioni di Calcolo



Dati Sismici	Accelerazione sismica	a_g/g	=	0.28	(-)	
	Categoria di suolo	S	=	1.25	(-)	
	il muro ammette spostamenti? (si/no)		<input checked="" type="radio"/> si	<input type="radio"/> no	r = 2	
Coefficienti di Spinta	coefficiente sismico orizzontale	kh	=	0.1719	(-)	
	coefficiente sismico verticale	kv	=	0.0859	(-)	
	Coeff. di Spinta Attiva sulla parete	ka	=	0.31	(-)	0.310
	componente orizzontale	kah	=	0.300	(-)	
	componente verticale	kav	=	0.08	(-)	
	Coeff. Di Spinta Attiva Sismica sulla parete	kas+	=	0.43	(-)	0.425
	componente orizzontale	kash+	=	0.41	(-)	
	componente verticale	kasv+	=	0.11	(-)	
Coeff. Di Spinta Attiva Sismica sulla parete	kas-	=	0.45	(-)	0.452	
componente orizzontale	kash-	=	0.44	(-)		
componente verticale	kasv-	=	0.11	(-)		

$$M_t = \frac{1}{2} K_{a\text{orizz.}} \cdot \gamma \cdot (1 \pm kv) \cdot h^2 \cdot h/3 \quad \text{o} \quad \frac{1}{2} K_{a\text{orizz.}} \cdot \gamma \cdot (1 \pm kv) \cdot h^2 \cdot h/2 \quad (\text{con sisma})$$

$$M_q = \frac{1}{2} K_{a\text{orizz.}} \cdot q \cdot h^2$$

$$M_{\text{ext}} = m \cdot f \cdot h$$

$$M_{\text{inerzia}} = \sum P m_i \cdot b_i \cdot kh \quad (\text{solo con sisma})$$

condizione sismica +

$$N_t = \frac{1}{2} K_{a\text{vert.}} \cdot \gamma \cdot (1 \pm kv) \cdot h^2$$

$$N_q = K_{a\text{vert.}} \cdot q \cdot h$$

$$N_{\text{ext}} = v$$

$$N_{\text{pp+inerzia}} = \sum P m_i \cdot (1 \pm kv)$$

sezione	h	Tt	Tq	T _{ext}	T _{inerzia}	T _{tot}
	[m]	[kN/m]	[kN/m]	[kN/m]	[kN/m]	[kN/m]
d-d	2.90	37.60	5.37	0.00	4.98	47.95
e-e	2.18	21.15	4.03	0.00	3.74	28.92
f-f	1.45	9.40	2.69	0.00	2.49	14.58
g-g	0.73	2.35	1.34	0.00	1.25	4.94

condizione sismica +

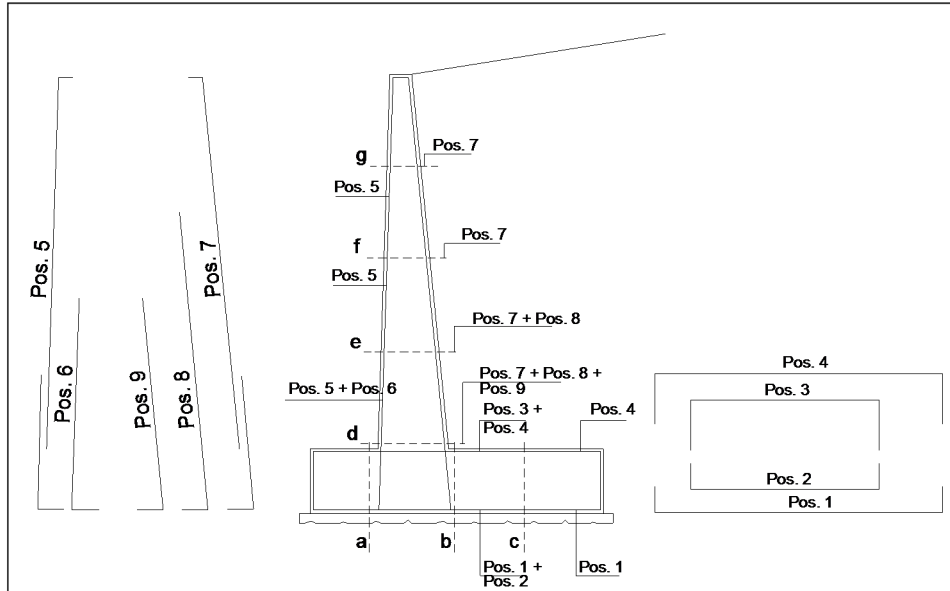
sezione	h	Mt	Mq	M _{ext}	M _{inerzia}	M _{tot}	Nt	Nq	N _{ext}	N _{pp+inerzia}	N _{tot}
	[m]	[kNm/m]	[kNm/m]	[kNm/m]	[kNm/m]	[kNm/m]	[kN/m]	[kN/m]	[kN/m]	[kN/m]	[kN/m]
d-d	2.90	54.51	15.58	0.00	7.23	77.32	9.81	2.80	0.00	31.49	44.11
e-e	2.18	23.00	8.76	0.00	4.07	35.83	5.52	2.10	0.00	23.62	31.24
f-f	1.45	6.81	3.89	0.00	1.81	12.52	2.45	1.40	0.00	15.75	19.60
g-g	0.73	0.85	0.97	0.00	0.45	2.28	0.61	0.70	0.00	7.87	9.19

condizione sismica -

sezione	h	Mt	Mq	M _{ext}	M _{inerzia}	M _{tot}	Nt	Nq	N _{ext}	N _{pp+inerzia}	N _{tot}
	[m]	[kNm/m]	[kNm/m]	[kNm/m]	[kNm/m]	[kNm/m]	[kN/m]	[kN/m]	[kN/m]	[kN/m]	[kN/m]
d-d	2.90	48.80	16.57	0.00	7.23	72.60	8.78	2.98	0.00	26.51	38.27
e-e	2.18	20.59	9.32	0.00	4.07	33.97	4.94	2.24	0.00	19.88	27.06
f-f	1.45	6.10	4.14	0.00	1.81	12.05	2.20	1.49	0.00	13.25	16.94
g-g	0.73	0.76	1.04	0.00	0.45	2.25	0.55	0.75	0.00	6.63	7.92

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SCHEMA DELLE ARMATURE

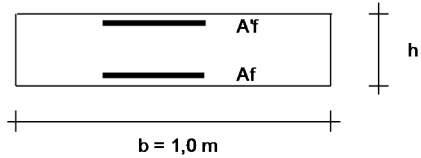


ARMATURE

pos	n°/ml	φ	pos	n°/ml	φ
1	5.0	14	5	5.0	12
2	5.0	0	6	0.0	0
3	5.0	12	7	5.0	14
4	5.0	14	8	5.0	0
			9	5.0	0

Calcola

VERIFICHE



- a-a pos 1-2-3-4
- b-b pos 1-2-3-4
- c-c pos 1-4
- d-d pos 5-6-7-8-9
- e-e pos 5-7-8
- f-f pos 5-7
- g-g pos 5-7

Sez.	M	N	h	Af	Af'	Mu
(-)	(kNm)	(kN)	(m)	(cm ²)	(cm ²)	(kNm)
a - a	5.55	0.00	0.40	7.70	13.35	110.49
b - b	-99.45	0.00	0.40	13.35	7.70	174.58
c - c	-40.93	0.00	0.40	7.70	7.70	109.08
d - d	77.32	44.11	0.40	7.70	5.65	114.96
e - e	35.83	31.24	0.40	7.70	5.65	112.90
f - f	12.52	19.60	0.40	7.70	5.65	111.02
g - g	2.28	9.19	0.40	7.70	5.65	109.35

coefficienti parziali

	caso	azioni		proprietà del terreno			
		permanenti sfavorevoli	temporane e variabili sfavorevoli	tan φ'	c'	c _u	
U	○	caso A1+M1	1.40	1.50	1.00	1.00	1.00
U	○	caso A2+M2	1.00	1.30	1.25	1.25	1.40
SLD	○	—	1.00	1.00	1.25	1.25	1.40
def.	●	SLE	1.00	1.00	1.00	1.00	1.00

Dati Geotecnici (usati per verifiche di stabilità e SLU)

Dati Terrapieno	Angolo di attrito del terrapieno	φ'	=	35.00	(°)	
	Peso Unità di Volume del terrapieno	γ'	=	20.00	(kN/m ³)	
	Angolo di Inclinazione Piano di Campagna	ε	=	0.00	(°)	
	Angolo di attrito terreno-paramento	δ _{muro}	=	17.50	(°)	
	Angolo di attrito terreno-superficie ideale	δ _{sup id}	=	17.50	(°)	
Dati Terreno Fondazione	Coesione Terreno di Fondazione	c1'	=	5.00	(kN/m ²)	
	Angolo di attrito del Terreno di Fondazione	φ ₁ '	=	27.50	(°)	
	Peso Unità di Volume del Terreno di Fondazione	γ ₁	=	19.50	(kN/m ³)	
	Peso Unità di Volume del Rinterro della Fondazione	γ _d	=	20.00	(kN/m ³)	
	Profondità Piano di Posa della Fondazione	H2'	=	1.60	(m)	
	Profondità Falda	Zw	=	100.00	(m)	
Coefficienti di Spinta	Coeff. di Spinta Attiva sulla superficie ideale	ka	=	0.25	(-)	0.246
	Coeff. Di Spinta Attiva Sismica sulla superficie ideale	kas+	=	0.35	(-)	0.347
	Coeff. Di Spinta Attiva Sismica sulla superficie ideale	kas-	=	0.37	(-)	0.370
	Coeff. Di Spinta Passiva in Fondazione	kp	=	2.72	(-)	2.716
	Coeff. Di Spinta Passiva Sismica in Fondazione	kps+	=	2.44	(-)	2.439
	Coeff. Di Spinta Passiva Sismica in Fondazione	kps-	=	2.38	(-)	2.382

Valori di
Normativa

Carichi Agenti (usati per verifiche di stabilità e allo SLU)

Condizioni Statiche	Sovraccarico Accidentale in condizioni statiche	q	=	29.00	(kN/m ²)
	Forza Orizzontale in Testa in condizioni statiche	f	=	0.00	(kN/m)
	Forza Verticale in Testa in condizioni statiche	v	=	0.00	(kN/m)
	Momento in Testa in condizioni statiche	m	=	0.00	(kNm/m)
Condizioni Sismiche	Sovraccarico Accidentale in condizioni sismiche	qs	=	9.00	(kN/m ²)
	Forza Orizzontale in Testa in condizioni sismiche	fs	=	0.00	(kN/m)
	Forza Verticale in Testa in condizioni sismiche	vs	=	0.00	(kN/m)
	Momento in Testa in condizioni sismiche	ms	=	0.00	(kNm/m)

VERIFICHE GEOTECNICHE

FORZE VERTICALI

- Peso del Muro (Pm)

$$\begin{aligned}
 Pm1 &= (B2 \cdot H3 \cdot \gamma_{cls}) / 2 &= & 0.00 \quad (\text{kN/m}) \\
 Pm2 &= (B3 \cdot H3 \cdot \gamma_{cls}) &= & 29.00 \quad (\text{kN/m}) \\
 Pm3 &= (B4 \cdot H3 \cdot \gamma_{cls}) / 2 &= & 0.00 \quad (\text{kN/m}) \\
 Pm4 &= (B \cdot H2 \cdot \gamma_{cls}) &= & 27.00 \quad (\text{kN/m}) \\
 Pm5 &= (Bd \cdot Hd \cdot \gamma_{cls}) &= & 0.00 \quad (\text{kN/m}) \\
 Pm &= Pm1 + Pm2 + Pm3 + Pm4 + Pm5 &= & 56.00 \quad (\text{kN/m})
 \end{aligned}$$

- Peso del terreno sulla scarpa di monte del muro (Pt)

$$\begin{aligned}
 Pt1 &= (B5 \cdot H3 \cdot \gamma) &= & 116.00 \quad (\text{kN/m}) \\
 Pt2 &= (0,5 \cdot (B4 + B5) \cdot H4 \cdot \gamma) &= & 0.00 \quad (\text{kN/m}) \\
 Pt3 &= (B4 \cdot H3 \cdot \gamma) / 2 &= & 0.00 \quad (\text{kN/m}) \\
 Pt &= Pt1 + Pt2 + Pt3 &= & 116.00 \quad (\text{kN/m})
 \end{aligned}$$

MOMENTI DELLE FORZE VERT. RISPETTO AL PIEDE DI VALLE DEL MURO

- Muro (Mm)

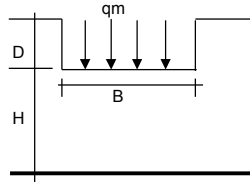
$$\begin{aligned}
 Mm1 &= Pm1 \cdot (B1 + 2/3 B2) &= & 0.00 \quad (\text{kNm/m}) \\
 Mm2 &= Pm2 \cdot (B1 + B2 + 0,5 B3) &= & 14.50 \quad (\text{kNm/m}) \\
 Mm3 &= Pm3 \cdot (B1 + B2 + B3 + 1/3 B4) &= & 0.00 \quad (\text{kNm/m}) \\
 Mm4 &= Pm4 \cdot (B/2) &= & 36.45 \quad (\text{kNm/m}) \\
 Mm5 &= Pm5 \cdot (B - Bd/2) &= & 0.00 \quad (\text{kNm/m}) \\
 Mm &= Mm1 + Mm2 + Mm3 + Mm4 + Mm5 &= & 50.95 \quad (\text{kNm/m})
 \end{aligned}$$

- Terrapieno a tergo del muro

$$\begin{aligned}
 Mt1 &= Pt1 \cdot (B1 + B2 + B3 + B4 + 0,5 B5) &= & 197.20 \quad (\text{kNm/m}) \\
 Mt2 &= Pt2 \cdot (B1 + B2 + B3 + 2/3 (B4 + B5)) &= & 0.00 \quad (\text{kNm/m}) \\
 Mt3 &= Pt3 \cdot (B1 + B2 + B3 + 2/3 B4) &= & 0.00 \quad (\text{kNm/m}) \\
 Mt &= Mt1 + Mt2 + Mt3 &= & 197.20 \quad (\text{kNm/m})
 \end{aligned}$$

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CEDIMENTO DELLA FONDAZIONE



$$\delta = \mu_0 * \mu_1 * qm * B^* / E$$

(Christian e Carrier, 1976)

Profondità Piano di Posa della Fondazione	D =	1.60	(m)
	D/B*	0.67	(m)
	H/B*	2.26	(m)
Carico unitario medio (qm)	qm = N / (B - 2*e) = N / B*	78.23	(kN/mq)
Coefficiente di forma $\mu_0 = f(D/B)$	$\mu_0 =$	0.931	(-)
Coefficiente di profondità $\mu_1 = f(H/B)$	$\mu_1 =$	0.72	(-)
Cedimento della fondazione	$\delta = \mu_0 * \mu_1 * qm * B^* / E =$	8.32	(mm)

VERIFICA A FESSURAZIONE - CALCOLO SOLLECITAZIONI

FORZE VERTICALI

- Peso del Muro (Pm)

Pm1 =	$(B2 * H3 * \gamma_{cls}) / 2$	=	0.00	(kN/m)
Pm2 =	$(B3 * H3 * \gamma_{cls})$	=	29.00	(kN/m)
Pm3 =	$(B4 * H3 * \gamma_{cls}) / 2$	=	0.00	(kN/m)
Pm4 =	$(B * H2 * \gamma_{cls})$	=	27.00	(kN/m)
Pm5 =	$(Bd * Hd * \gamma_{cls})$	=	0.00	(kN/m)
Pm =	Pm1 + Pm2 + Pm3 + Pm4 + Pm5	=	56.00	(kN/m)

- Peso del terreno sulla scarpa di monte del muro (Pt)

Pt1 =	$(B5 * H3 * \gamma')$	=	116.00	(kN/m)
Pt2 =	$(0,5 * (B4 + B5) * H4 * \gamma')$	=	0.00	(kN/m)
Pt3 =	$(B4 * H3 * \gamma') / 2$	=	0.00	(kN/m)
Pt =	Pt1 + Pt2 + Pt3	=	116.00	(kN/m)

MOMENTI DELLE FORZE VERT. RISPETTO AL PIEDE DI VALLE DEL MURO

- Muro (Mm)

Mm1 =	$Pm1 * (B1 + 2/3 B2)$	=	0.00	(kNm/m)
Mm2 =	$Pm2 * (B1 + B2 + 0,5 * B3)$	=	14.50	(kNm/m)
Mm3 =	$Pm3 * (B1 + B2 + B3 + 1/3 B4)$	=	0.00	(kNm/m)
Mm4 =	$Pm4 * (B/2)$	=	36.45	(kNm/m)
Mm5 =	$Pm5 * (B - Bd/2)$	=	0.00	(kNm/m)
Mm =	Mm1 + Mm2 + Mm3 + Mm4 + Mm5	=	50.95	(kNm/m)

- Terrapieno a tergo del muro

Mt1 =	$Pt1 * (B1 + B2 + B3 + B4 + 0,5 * B5)$	=	197.20	(kNm/m)
Mt2 =	$Pt2 * (B1 + B2 + B3 + 2/3 * (B4 + B5))$	=	0.00	(kNm/m)
Mt3 =	$Pt3 * (B1 + B2 + B3 + 2/3 * B4)$	=	0.00	(kNm/m)
Mt =	Mt1 + Mt2 + Mt3	=	197.20	(kNm/m)

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CONDIZIONE STATICA (SLE e FESSURAZIONE)

SPINTE DEL TERRENO E DEL SOVRACCARICO

Spinta totale condizione statica

$$St = 0,5 \cdot \gamma \cdot (H2+H3+H4+Hd)^2 \cdot ka = 26.80 \text{ (kN/m)}$$

$$Sq = q \cdot (H2+H3+H4+Hd) \cdot ka = 23.55 \text{ (kN/m)}$$

componente orizzontale condizione statica

$$Sth = St \cdot \cos \delta = 25.56 \text{ (kN/m)}$$

$$Sqh = Sq \cdot \cos \delta = 22.46 \text{ (kN/m)}$$

componente verticale condizione statica

$$Stv = St \cdot \sin \delta = 8.06 \text{ (kN/m)}$$

$$Sqv = Sq \cdot \sin \delta = 7.08 \text{ (kN/m)}$$

Spinta passiva sul dente

$$Sp = \frac{1}{2} \cdot \gamma_1 \cdot Hd^2 \cdot kp + (2 \cdot c_1 \cdot kp^{0.5} + \gamma_1 \cdot kp \cdot H2) \cdot Hd = 0.00 \text{ (kN/m)}$$

MOMENTI DELLA SPINTA DEL TERRENO E DEL SOVRACCARICO

condizione statica

$$MSt1 = Sth \cdot ((H2+H3+H4+Hd)/3 - Hd) = 28.12 \text{ (kNm)}$$

$$MSt2 = Stv \cdot B = 21.76 \text{ (kNm)}$$

$$MSq1 = Sqh \cdot ((H2+H3+H4+Hd)/2 - Hd) = 37.07 \text{ (kNm)}$$

$$MSq2 = Sqv \cdot B = 19.12 \text{ (kNm)}$$

$$MSp = \gamma_1 \cdot Hd^3 \cdot kp / 3 + (2 \cdot c_1 \cdot kp^{0.5} + \gamma_1 \cdot kp \cdot H2) \cdot Hd^2 / 2 = 0.00 \text{ (kNm)}$$

FORZE ESTERNE

Momento dovuto alle Forze Esterne (Mfext)

$$Mfext1 = m = 0.00 \text{ (kNm/m)}$$

$$Mfext2 = f \cdot (H3 + H2) = 0.00 \text{ (kNm/m)}$$

$$Mfext3 = v \cdot (B1 + B2 + B3/2) = 0.00 \text{ (kNm/m)}$$

AZIONI TOTALI SULLA FONDAZIONE

Risultante forze verticali (N)

$$N = Pm + Pt + v + Stv + Sqv = 187.14 \text{ (kN/m)}$$

Momento stabilizzante (Ms)

$$Ms = Mm + Mt + MSt2 + MSq2 + Mfext3 = 289.03 \text{ (kNm/m)}$$

Momento ribaltante (Mr)

$$Mr = MSt1 + MSq1 + Mfext1 + Mfext2 + MSp = 65.18 \text{ (kNm/m)}$$

Risultante dei momenti rispetto al piede di valle (MM)

$$MM = Ms - Mr = 223.85 \text{ (kNm/m)}$$

Momento rispetto al baricentro della fondazione (M)

$$M = Xc \cdot N - MM = 28.79 \text{ (kNm/m)}$$

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CALCOLI STATICI

DATI DI PROGETTO:

Caratteristiche dei Materiali

Calcestruzzo

Rck = 40 (MPa)

$f_{ctm} = 0.48 \cdot R_{ck}^{1/2} = 3.04$ (MPa)

coefficiente omogeneizzazione acciaio $n = 15$

Copriferro (distanza asse armatura-bordo)

$c = 5.70$ (cm)

Copriferro minimo di normativa (ricoprimento armatura)

$c_{min} = 2.00$ (cm)

Valore limite di apertura delle fessure

$w_1 = 0.2$ mm = W_k

Acciaio

tipo di acciaio B450C

$f_{yk} = 450$ (MPa)

$E_s = 210000$ (MPa)

CALCOLO SOLLECITAZIONI SOLETTA DI FONDAZIONE

Reazione del terreno

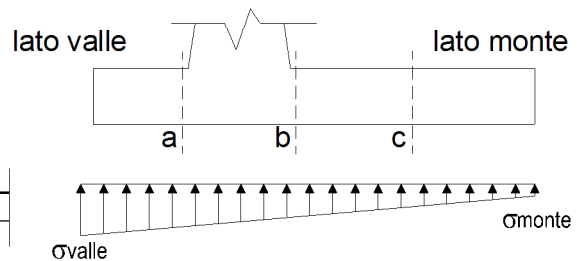
$\sigma_{valle} = N / A + M / W_{gg}$

$\sigma_{monte} = N / A - M / W_{gg}$

$A = b \cdot h = 2.70$ (m²)

$W_{gg} = b \cdot h^2 / 6 = 1.22$ (m³)

caso	N	M	σ_{valle}	σ_{monte}
	[kN]	[kNm]	[kN/m ²]	[kN/m ²]
statico	187.14	28.79	93.01	45.62

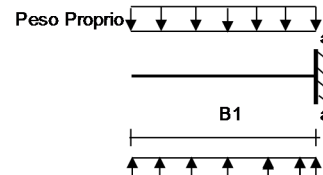


Mensola Lato Valle - Schema Statico

PP = 10.00 (kN/m) peso proprio soletta fondazione

$M_a = \sigma_1 \cdot B^2 / 2 + (\sigma_{valle} - \sigma_1) \cdot B^2 / 3 - PP \cdot B^2 / 2 \cdot (1 \pm kv)$

caso	σ_{valle}	σ_1	M_a
	[kN/m ²]	[kN/m ²]	[kNm]
statico	93.01	87.74	3.66



Mensola Lato Monte - Schema Statico

PP = 10.00 (kN/m²) peso proprio soletta fondazione

PD = 0.00 (kN/m) peso proprio dente

pm = 58.00 (kN/m²)

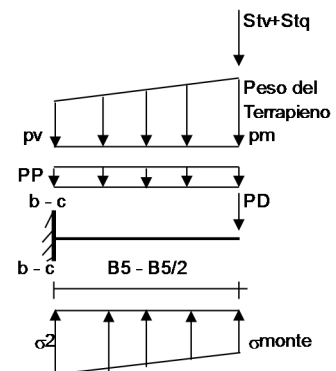
pvb = 58.00 (kN/m²)

pvc = 58.00 (kN/m²)

$M_b = (\sigma_{monte} - (p_{vb} + PP) \cdot (1 \pm kv)) \cdot B^2 / 2 + (\sigma_2 - \sigma_{monte}) \cdot B^2 / 6 - (p_m - p_{vb}) \cdot (1 \pm kv) \cdot B^2 / 3 - (Stv + Sqv) \cdot B^2 \cdot PD \cdot (1 \pm kv) \cdot (B_5 - B_d / 2) - PD \cdot kh \cdot (H_d + H_2 / 2) + M_{sp} + Sp \cdot H_2 / 2$

$M_c = (\sigma_{monte} - (p_{vc} + PP) \cdot (1 \pm kv)) \cdot (B_5 / 2)^2 / 2 + (\sigma_2 - \sigma_{monte}) \cdot (B_5 / 2)^2 / 6 - (p_m - p_{vc}) \cdot (1 \pm kv) \cdot (B_5 / 2)^2 / 3 - (Stv + Sqv) \cdot (B_5 / 2) \cdot PD \cdot (1 \pm kv) \cdot (B_5 / 2 - B_d / 2) - PD \cdot kh \cdot (H_d + H_2 / 2) + M_{sp} + Sp \cdot H_2 / 2$

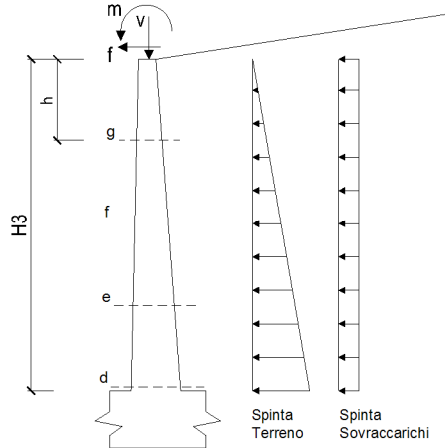
caso	σ_{monte}	σ_{2b}	M_b	σ_{2c}	M_c
	[kN/m ²]	[kN/m ²]	[kNm]	[kN/m ²]	[kNm]
statico	45.62	80.72	-51.65	63.17	-23.41



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CALCOLO SOLLECITAZIONI PARAMENTO VERTICALE DEL MURO

Azioni sulla parete e Sezioni di Calcolo

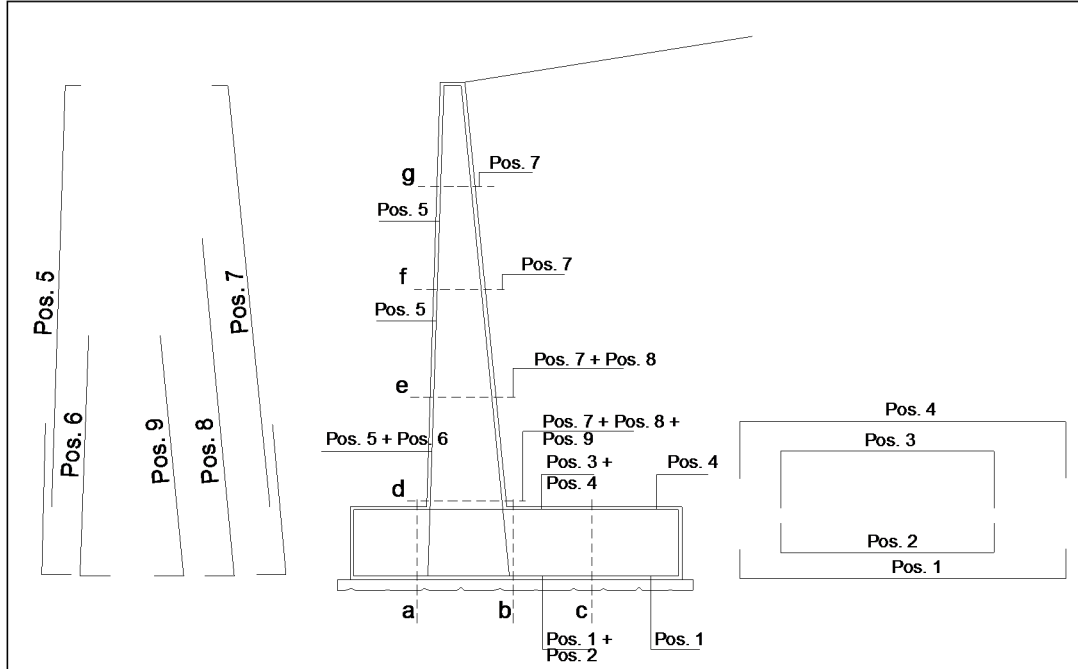


Dati Sismici	Accelerazione sismica	a_g/g	=	0.28	(-)	
	Categoria di suolo	S	=	1.25	(-)	
	il muro ammette spostamenti? (si/no)	<input checked="" type="radio"/> si <input type="radio"/> no				r = 2
	coefficiente sismico orizzontale	kh	=	0.1719	(-)	
	coefficiente sismico verticale	kv	=	0.0859	(-)	
Coefficienti di Spinta	Coeff. di Spinta Attiva sulla parete	ka	=	0.25	(-)	0.246
	componente orizzontale	kah	=	0.23	(-)	
	componente verticale	kav	=	0.07	(-)	
	Coeff. Di Spinta Attiva Sismica sulla parete	kas+	=	0.35	(-)	0.347
	componente orizzontale	kash+	=	0.33	(-)	
	componente verticale	kasv+	=	0.10	(-)	
Coeff. Di Spinta Attiva Sismica sulla parete	kas-	=	0.37	(-)	0.370	
	componente orizzontale	kash-	=	0.35	(-)	
	componente verticale	kasv-	=	0.11	(-)	

condizione statica

sezione	h	Mt	Mq	M _{ext}	M _{tot}	Nt	Nq	N _{ext}	N _{pp}	N _{tot}
	[m]	[kNm/m]	[kNm/m]	[kNm/m]	[kNm/m]	[kN/m]	[kN/m]	[kN/m]	[kN/m]	[kN/m]
d-d	2.90	19.08	28.62	0.00	47.71	6.22	6.22	0.00	29.00	41.45
e-e	2.18	8.05	16.10	0.00	24.15	3.50	4.67	0.00	21.75	29.92
f-f	1.45	2.39	7.16	0.00	9.54	1.56	3.11	0.00	14.50	19.17
g-g	0.73	0.30	1.79	0.00	2.09	0.39	1.56	0.00	7.25	9.20

SCHEMA DELLE ARMATURE

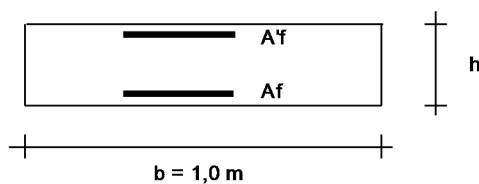


ARMATURE

pos	n°/ml	φ	pos	n°/ml	φ
1	5.0	14	5	5.0	12
2	5.0	0	6	0.0	0
3	5.0	12	7	5.0	14
4	5.0	14	8	5.0	0
			9	5.0	0

Calcola

VERIFICHE



- a-a pos 1-2-3-4
- b-b pos 1-2-3-4
- c-c pos 1-4
- d-d pos 5-6-7-8-9
- e-e pos 5-7-8
- f-f pos 5-7
- g-g pos 5-7

Condizione Statica

Sez.	M	N	h	Af	A'f	σ ^c	σ ^f	w _k	w _{amm}
(-)	(kNm)	(kN)	(m)	(cm ²)	(cm ²)	(N/mm ²)	(N/mm ²)	(mm)	(mm)
a - a	3.66	0.00	0.40	7.70	13.35	0.28	15.10	0.017	0.200
b - b	-51.65	0.00	0.40	13.35	7.70	3.20	125.17	0.105	0.200
c - c	-23.41	0.00	0.40	7.70	7.70	1.82	96.39	0.108	0.200
d - d	47.71	41.45	0.40	7.70	5.65	3.75	169.02	0.185	0.200
e - e	24.15	29.92	0.40	7.70	5.65	1.90	79.81	0.087	0.200
f - f	9.54	19.17	0.40	7.70	5.65	0.74	26.91	0.029	0.200
g - g	2.09	9.20	0.40	7.70	5.65	0.15	3.08	0.003	0.200

(n.b.: M+ tende le fibre di intradosso, M- tende le fibre di estradosso)

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Verifica a taglio sezione b-b			
<i>Elementi senza armatura trasversale a taglio</i>			
<i>- Verifica del conglomerato</i>			
$VRd = [0,18 \cdot k \cdot (100 \cdot \rho \cdot 1 \cdot f_{ck})^{1/3} / \gamma_c + 0,15 \cdot \sigma_{cp}] \cdot bw \cdot d =$	167.41	kN	
VEd =	81.27	kN	ok
con:			
$K = 1 + (200/d)^{1/2} =$	1.778		≤ 2
$R_{ck} =$	40	N/mm ²	
$v_{min} = 0,035 \cdot k^{3/2} \cdot f_{ck}^{1/2} =$	0.478	N/mm ²	
$f_{ck} = 0,83 \cdot R_{ck} =$	33.2	N/mm ²	
$f_{cd} = \alpha_{cc} \cdot f_{ck} / \gamma_c =$	18.81	N/mm ²	
$\rho_1 = A_{sl} / (bw \cdot d) =$	0.00405		$\leq 0,02$
$d =$	330	mm	
$H =$	400	mm	
$bw =$	1000	mm	
$A_{sl} =$	1335	mm ²	(1 ϕ 14/20+1 ϕ 12/20)
$N_{Ed} =$	0.00	kN	
$\sigma_{cp} = N_{Ed} / A_c =$	0.000	N/mm ²	$\leq 0,2 \cdot f_{cd}$

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Verifica a taglio sezione d-d			
<i>Elementi senza armatura trasversale a taglio</i>			
<i>- Verifica del conglomerato</i>			
$VRd = [0,18 \cdot k \cdot (100 \cdot \rho \cdot 1 \cdot f_{ck})^{1/3} / \gamma_c + 0,15 \cdot \sigma_{cp}] \cdot bw \cdot d =$	139.35	kN	
VEd =	58.11	kN	ok
con:			
$K = 1 + (200/d)^{1/2} =$	1.778		≤ 2
$R_{ck} =$	40	N/mm ²	
$v_{min} = 0,035 \cdot k^{3/2} \cdot f_{ck}^{1/2} =$	0.478	N/mm ²	
$f_{ck} = 0,83 \cdot R_{ck} =$	33.2	N/mm ²	
$f_{cd} = \alpha_{cc} \cdot f_{ck} / \gamma_c =$	18.81	N/mm ²	
$\rho_1 = A_{sl} / (bw \cdot d) =$	0.00233		$\leq 0,02$
$d =$	330	mm	
$H =$	400	mm	
$bw =$	1000	mm	
$A_{sl} =$	770	mm ²	(1φ14/20)
$N_{Ed} =$	0.00	kN	
$\sigma_{cp} = N_{Ed} / A_c =$	0.000	N/mm ²	$\leq 0,2 \cdot f_{cd}$