



COMUNE DI SANTA MARIA A MONTE

Spazio insieme zerocentoventi San Sebastiano

PROGETTO DEFINITIVO/ESECUTIVO

(redatto ai sensi del D.Lgs. 50/2016 e s.m.i.)

Strutturale

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Progettazione impianti TERMOMECCANICI:

P.I. Luca POLLARI

Progettazione impianti ELETTRICI E SPECIALI:

P.I. Yuri DEMI

CODICE FILE

ES_18_06_DE_L1_S_D05

CONTENUTO FILE:

- Profilatura Versante

DATA :

OTTOBRE 2020

VERIFICA DI STABILITA'
PROFILATURA VERSANTE

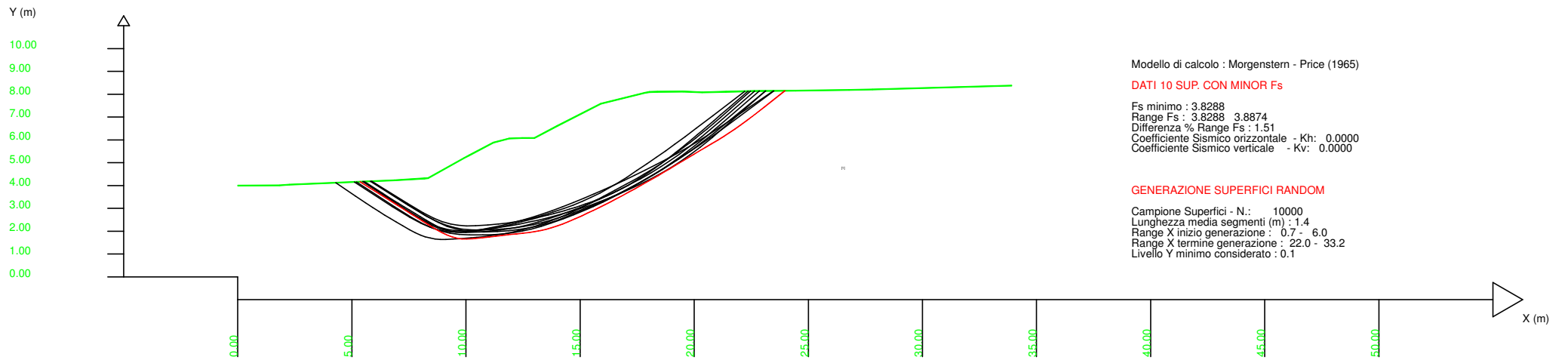
VERIFICA DI STABILITA'
STATO ATTUALE

SSAP 5.0 (2020) - Slope Stability Analysis Program
 Software by Dr.Geol. L.Borselli - www.lorenzo-borselli.eu
 SSAP/DXF generator rel. 2.0 (2020)

Data : 10/11/2020
 Localita' : San. Sebastiano - S.Maria a Monte
 Descrizione : profilatura versante (Sez.1 Tav.4) lato sud stato attuale in condizioni statiche drenate
 [n] = N. strato o lente

Parametri Geotecnici degli strati # -----

N.	phi	C'	Cu	Gamm	GammSat	sgci	GSI	mi	D
..	deg	kPa	kPa	kN/m3	kN/m3	MPa	..	..	..
1	22.00	25.00	0	19.50	20.00	0	0	0	0



Modello di calcolo : Morgenstern - Price (1965)

DATI 10 SUP. CON MINOR Fs

Fs minimo : 3.8288
 Range Fs : 3.8288 - 3.8874
 Differenza % Range Fs : 1.51
 Coefficiente Sismico orizzontale - Kh: 0.0000
 Coefficiente Sismico verticale - Kv: 0.0000

GENERAZIONE SUPERFICI RANDOM

Campione Superfici - N.: 10000
 Lunghezza media segmenti (m) : 1.4
 Range X inizio generazione : 0.7 - 6.0
 Range X termine generazione : 22.0 - 33.2
 Livello Y minimo considerato : 0.1

Report elaborazioni

SSAP 5.0 - Slope Stability Analysis Program (1991,2020)

WWW.SSAP.EU

Build No. 11716

BY

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** Gia' Ricercatore CNR-IRPI fino a Luglio 2011

Ultima Revisione struttura tabelle del report: 12 settembre 2020

File report: D:\ssp2010prove\lavori\smontemuro\PROFILI\verifiche\attuale statico dre.txt

Data: 10/11/2020

Localita' : San. Sebastiano - S.Maria a Monte

Descrizione: profilatura versante (Sez.1 Tav.4) lato sud stato attuale in condizioni statiche drenate

Modello pendio: PROFILOATT.mod

----- PARAMETRI DEL MODELLO DEL PENDIO -----

___ PARAMETRI GEOMETRICI - Coordinate X Y (in m) ___

SUP T.		SUP 2		SUP 3		SUP 4	
X	Y	X	Y	X	Y	X	Y
0.00	4.00	-	-	-	-	-	-
1.83	4.01	-	-	-	-	-	-
2.26	4.04	-	-	-	-	-	-
6.87	4.23	-	-	-	-	-	-
8.17	4.31	-	-	-	-	-	-
8.34	4.33	-	-	-	-	-	-
9.92	5.21	-	-	-	-	-	-
10.13	5.32	-	-	-	-	-	-
11.20	5.88	-	-	-	-	-	-
11.89	6.06	-	-	-	-	-	-
12.46	6.08	-	-	-	-	-	-
12.76	6.08	-	-	-	-	-	-
13.00	6.08	-	-	-	-	-	-
14.00	6.61	-	-	-	-	-	-
15.91	7.59	-	-	-	-	-	-
17.83	8.06	-	-	-	-	-	-
18.04	8.10	-	-	-	-	-	-
18.39	8.11	-	-	-	-	-	-
19.51	8.12	-	-	-	-	-	-
20.35	8.08	-	-	-	-	-	-
21.40	8.11	-	-	-	-	-	-
22.63	8.14	-	-	-	-	-	-
24.44	8.16	-	-	-	-	-	-

26.78	8.19	-	-	-	-	-	-
27.81	8.21	-	-	-	-	-	-
33.92	8.38	-	-	-	-	-	-

ASSENZA DI FALDA

----- PARAMETRI GEOMECCANICI -----

	fi`	C`	Cu	Gamm	Gamm_sat	STR_IDX	sgci	GSI	mi	D
STRATO 1	22.00	25.00	0.00	19.50	20.00	2.277	0.00	0.00	0.00	0.00

LEGENDA: fi` _____ Angolo di attrito interno efficace(in gradi)
 C` _____ Coesione efficace (in Kpa)
 Cu _____ Resistenza al taglio Non drenata (in Kpa)
 Gamm _____ Peso di volume terreno fuori falda (in KN/m^3)
 Gamm_sat _____ Peso di volume terreno immerso (in KN/m^3)
 STR_IDX _____ Indice di resistenza (usato in solo in 'SNIFF SEARCH) (adimensionale)
 ---- SOLO Per AMMASSI ROCCIOSI FRATTURATI - Parametri Criterio di Rottura di Hoek (2002)-
 sigci _____ Resistenza Compressione Uniassiale Roccia Intatta (in MPa)
 GSI _____ Geological Strenght Index ammasso(adimensionale)
 mi _____ Indice litologico ammasso(adimensionale)
 D _____ Fattore di disturbo ammasso(adimensionale)

Fattore di riduzione NTC2018: gammaPHI=1.25 e gammaC=1.25 - DISATTIVATO (solo per ROCCE)
 Uso CRITERIO DI ROTTURA Hoek et al.(2002,2006) - non-lineare - Generalizzato, secondo Lei et al.(2016)

----- INFORMAZIONI GENERAZIONE SUPERFICI RANDOM -----

*** PARAMETRI PER LA GENERAZIONE DELLE SUPERFICI
 METODO DI RICERCA: CONVEX RANDOM - Chen (1992)
 FILTRAGGIO SUPERFICI : ATTIVATO
 COORDINATE X1,X2,Y OSTACOLO : 0.00 0.00 0.00
 LUNGHEZZA MEDIA SEGMENTI (m): 1.4 (+/-) 50%
 INTERVALLO ASCISSE RANDOM STARTING POINT (Xmin .. Xmax): 0.68 6.00
 LIVELLO MINIMO CONSIDERATO (Ymin): 0.06
 INTERVALLO ASCISSE AMMESSO PER LA TERMINAZIONE (Xmin .. Xmax): 22.00 33.24

*** TOTALE SUPERFICI GENERATE : 10000

----- INFORMAZIONI PARAMETRI DI CALCOLO -----

METODO DI CALCOLO : MORGENSTERN - PRICE (Morgenstern & Price, 1965)
 METODO DI ESPLORAZIONE CAMPO VALORI (lambda0,Fs0) ADOTTATO : A (rapido)
 COEFFICIENTE SISMICO UTILIZZATO Kh : 0.0000
 COEFFICIENTE SISMICO UTILIZZATO Kv (assunto Positivo): 0.0000
 COEFFICIENTE c=Kv/Kh UTILIZZATO : 0.5000
 FORZA ORIZZONTALE ADDIZIONALE IN TESTA (kN/m): 0.00
 FORZA ORIZZONTALE ADDIZIONALE ALLA BASE (kN/m): 0.00

N.B. Le forze orizzontali addizionali in testa e alla base sono poste uguali a 0
 durante le tutte le verifiche globali.
 I valori >0 impostati dall'utente sono utilizzati solo in caso di verifica singola

----- RISULTATO FINALE ELABORAZIONI -----

* DATI RELATIVI ALLE 10 SUPERFICI GENERATE CON MINOR Fs *

Fattore di sicurezza (FS) 3.8288 - Min. - X Y Lambda= 0.2092

5.36	4.17
6.23	3.62
6.69	3.33
7.01	3.13
7.30	2.94
7.56	2.78
7.83	2.62
8.10	2.45
8.39	2.27
8.71	2.07
8.96	1.93
9.18	1.82
9.38	1.75
9.62	1.69
9.81	1.66
10.04	1.66
10.28	1.67
10.60	1.70
10.89	1.74
11.17	1.77
11.44	1.80
11.70	1.83
11.96	1.86
12.22	1.89
12.50	1.92
12.78	1.95
13.03	1.98
13.28	2.03
13.51	2.08
13.76	2.15
13.99	2.23
14.24	2.32
14.50	2.42
14.79	2.55
15.06	2.67
15.32	2.79
15.58	2.91
15.83	3.03
16.08	3.16
16.34	3.29
16.60	3.43
16.87	3.57
17.13	3.71
17.39	3.85
17.64	3.99
17.90	4.14
18.16	4.29
18.41	4.43
18.67	4.59
18.93	4.74
19.19	4.90

19.45	5.05
19.71	5.21
19.97	5.36
20.23	5.52
20.49	5.67
20.76	5.83
21.03	5.99
21.28	6.15
21.53	6.31
21.78	6.48
22.04	6.65
22.31	6.86
22.63	7.09
23.08	7.45
23.98	8.15

Fattore di sicurezza (FS) 3.8337 - N.2 -- X Y Lambda= 0.2220

5.54	4.18
6.33	3.67
6.74	3.41
7.03	3.23
7.29	3.07
7.52	2.92
7.76	2.78
8.01	2.63
8.27	2.48
8.55	2.31
8.78	2.19
8.99	2.10
9.17	2.04
9.38	1.99
9.57	1.96
9.77	1.95
10.00	1.97
10.30	2.00
10.56	2.03
10.80	2.06
11.03	2.10
11.26	2.14
11.48	2.18
11.71	2.23
11.94	2.28
12.18	2.35
12.42	2.41
12.66	2.47
12.90	2.53
13.13	2.59
13.36	2.65
13.60	2.71
13.84	2.77
14.08	2.84
14.31	2.90

14.54	2.97
14.77	3.04
15.00	3.11
15.22	3.19
15.46	3.27
15.70	3.36
15.96	3.46
16.19	3.56
16.42	3.66
16.64	3.76
16.86	3.88
17.08	4.00
17.31	4.13
17.55	4.28
17.80	4.44
18.04	4.60
18.28	4.76
18.50	4.93
18.73	5.09
18.96	5.27
19.19	5.44
19.42	5.63
19.66	5.83
19.90	6.03
20.14	6.23
20.37	6.43
20.60	6.62
20.86	6.85
21.16	7.10
21.57	7.45
22.36	8.13

Fattore di sicurezza (FS) 3.8537 - N.3 -- X Y Lambda= 0.2124

5.49	4.17
7.25	3.00
8.03	2.51
8.52	2.24
8.89	2.09
9.29	2.00
9.62	1.96
10.00	1.98
10.44	2.03
11.05	2.15
11.56	2.26
12.03	2.37
12.47	2.48
12.90	2.61
13.33	2.75
13.77	2.90
14.22	3.07
14.71	3.26
15.17	3.45

15.62	3.64
16.06	3.83
16.50	4.03
16.94	4.23
17.39	4.45
17.85	4.67
18.33	4.91
18.78	5.15
19.22	5.39
19.66	5.64
20.10	5.90
20.58	6.20
21.13	6.56
21.92	7.09
23.47	8.15

Fattore di sicurezza (FS) 3.8705 - N.4 -- X Y Lambda= 0.2138

5.48	4.17
7.18	3.07
7.94	2.60
8.43	2.34
8.81	2.18
9.21	2.08
9.54	2.02
9.93	2.01
10.36	2.03
10.94	2.10
11.43	2.17
11.89	2.23
12.32	2.31
12.75	2.40
13.18	2.49
13.61	2.59
14.06	2.71
14.55	2.85
15.00	2.99
15.43	3.13
15.85	3.29
16.28	3.45
16.70	3.63
17.14	3.83
17.60	4.04
18.10	4.30
18.55	4.54
18.97	4.78
19.38	5.04
19.81	5.34
20.26	5.68
20.79	6.11
21.56	6.77
23.13	8.15

Fattore di sicurezza (FS)	3.8713	- N.5 --	X	Y	Lambda=	0.2117
			5.11	4.16		
			6.77	3.08		
			7.54	2.61		
			8.03	2.35		
			8.42	2.18		
			8.82	2.06		
			9.16	1.99		
			9.56	1.95		
			10.00	1.95		
			10.58	1.97		
			11.06	2.00		
			11.50	2.05		
			11.91	2.11		
			12.33	2.19		
			12.73	2.29		
			13.15	2.40		
			13.60	2.54		
			14.10	2.71		
			14.56	2.87		
			14.99	3.04		
			15.41	3.21		
			15.84	3.40		
			16.26	3.59		
			16.70	3.80		
			17.15	4.04		
			17.65	4.30		
			18.09	4.55		
			18.51	4.81		
			18.92	5.08		
			19.35	5.38		
			19.81	5.72		
			20.33	6.15		
			21.10	6.80		
			22.64	8.14		

Fattore di sicurezza (FS)	3.8729	- N.6 --	X	Y	Lambda=	0.2121
			5.80	4.19		
			7.44	3.15		
			8.20	2.70		
			8.68	2.44		
			9.07	2.28		
			9.47	2.16		
			9.82	2.09		
			10.21	2.06		
			10.64	2.05		
			11.22	2.07		
			11.69	2.10		
			12.12	2.15		
			12.52	2.21		
			12.94	2.28		

13.34	2.38
13.75	2.49
14.19	2.63
14.70	2.80
15.15	2.97
15.58	3.14
15.99	3.31
16.41	3.51
16.82	3.71
17.25	3.93
17.69	4.17
18.17	4.45
18.61	4.71
19.04	4.98
19.45	5.25
19.88	5.55
20.34	5.89
20.87	6.30
21.62	6.90
23.13	8.15

Fattore di sicurezza (FS) 3.8734 - N.7 -- X Y Lambda= 0.2195

5.87	4.19
7.42	3.22
8.13	2.81
8.59	2.57
8.95	2.42
9.33	2.32
9.65	2.26
10.01	2.24
10.42	2.24
10.96	2.27
11.41	2.31
11.82	2.36
12.21	2.42
12.60	2.50
12.98	2.59
13.38	2.70
13.80	2.83
14.28	2.99
14.70	3.14
15.10	3.31
15.47	3.48
15.87	3.67
16.24	3.88
16.64	4.11
17.04	4.36
17.49	4.66
17.92	4.95
18.33	5.23
18.74	5.52
19.14	5.81

19.59	6.14
20.10	6.51
20.81	7.06
22.21	8.13

Fattore di sicurezza (FS) 3.8738 - N.8 -- X Y Lambda= 0.2098

5.85	4.19
7.52	3.11
8.29	2.65
8.78	2.38
9.18	2.21
9.58	2.09
9.93	2.02
10.33	1.98
10.78	1.97
11.37	1.99
11.86	2.02
12.29	2.07
12.69	2.13
13.12	2.22
13.51	2.33
13.93	2.46
14.37	2.62
14.89	2.82
15.35	3.01
15.79	3.21
16.22	3.41
16.65	3.62
17.07	3.84
17.51	4.08
17.95	4.33
18.43	4.61
18.88	4.89
19.32	5.16
19.75	5.44
20.18	5.74
20.66	6.07
21.21	6.46
21.98	7.02
23.50	8.15

Fattore di sicurezza (FS) 3.8746 - N.9 -- X Y Lambda= 0.2095

5.21	4.16
6.87	3.07
7.64	2.59
8.14	2.32
8.54	2.13
8.94	2.00
9.30	1.92
9.70	1.86
10.15	1.84

10.74	1.84
11.22	1.85
11.65	1.88
12.05	1.93
12.48	2.01
12.87	2.10
13.29	2.21
13.73	2.36
14.25	2.54
14.71	2.72
15.15	2.90
15.58	3.08
16.01	3.28
16.43	3.49
16.87	3.71
17.32	3.96
17.81	4.24
18.26	4.51
18.69	4.78
19.11	5.06
19.54	5.37
20.00	5.73
20.54	6.16
21.31	6.81
22.85	8.14

Fattore di sicurezza (FS)	3.8874	- N.10	--	X	Y	Lambda=	0.2078
				4.29	4.12		
				5.15	3.54		
				5.59	3.25		
				5.90	3.04		
				6.18	2.87		
				6.43	2.71		
				6.69	2.55		
				6.95	2.40		
				7.23	2.24		
				7.53	2.06		
				7.78	1.93		
				8.01	1.83		
				8.21	1.76		
				8.44	1.70		
				8.65	1.66		
				8.87	1.64		
				9.12	1.64		
				9.43	1.66		
				9.71	1.67		
				9.97	1.69		
				10.22	1.71		
				10.47	1.73		
				10.72	1.76		
				10.97	1.79		
				11.23	1.82		

11.50	1.86
11.76	1.91
12.00	1.95
12.24	2.01
12.49	2.07
12.73	2.13
12.97	2.20
13.23	2.29
13.51	2.38
13.77	2.48
14.02	2.57
14.26	2.67
14.51	2.78
14.75	2.88
15.00	3.00
15.25	3.13
15.51	3.26
15.77	3.40
16.03	3.53
16.28	3.66
16.53	3.80
16.78	3.93
17.04	4.07
17.30	4.21
17.56	4.36
17.81	4.50
18.06	4.65
18.30	4.80
18.55	4.96
18.79	5.13
19.04	5.30
19.29	5.49
19.56	5.69
19.82	5.89
20.07	6.08
20.32	6.28
20.57	6.49
20.84	6.72
21.16	6.99
21.60	7.37
22.46	8.14

----- ANALISI DEFICIT DI RESISTENZA -----

DATI RELATIVI ALLE 10 SUPERFICI GENERATE CON MINOR F_s *

Analisi Deficit in riferimento a F_S(progetto) = 1.100

Sup N.	FS	FTR(kN/m)	FTA(kN/m)	Bilancio(kN/m)	ESITO
1	3.829	996.0	260.1	709.8	Surplus
2	3.834	875.7	228.4	624.4	Surplus
3	3.854	894.4	232.1	639.1	Surplus
4	3.870	916.3	236.7	655.9	Surplus
5	3.871	912.3	235.7	653.1	Surplus

6	3.873	906.1	234.0	648.7	Surplus
7	3.873	825.1	213.0	590.8	Surplus
8	3.874	925.1	238.8	662.4	Surplus
9	3.875	942.5	243.3	674.9	Surplus
10	3.887	961.2	247.3	689.2	Surplus

Esito analisi: SURPLUS di RESISTENZA!

Valore minimo di SURPLUS di RESISTENZA (kN/m): 590.8

Note: FTR --> Forza totale Resistente lungo la superficie di scivolamento

FTA --> Forza totale Agente lungo la superficie di scivolamento

IMPORTANTE! : Il Deficit o il Surplus di resistenza viene espresso in kN per metro di LARGHEZZA rispetto al fronte della scarpata

TABELLA PARAMETRI CONCI DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	alpha (°)	W (kN/m)	ru (-)	U (kPa)	phi ' (°)	(c', Cu) (kPa)
5.361	0.226	-32.31	0.34	0.00	0.00	22.00	25.00
5.588	0.226	-32.31	1.01	0.00	0.00	22.00	25.00
5.814	0.226	-32.31	1.68	0.00	0.00	22.00	25.00
6.040	0.193	-32.31	1.97	0.00	0.00	22.00	25.00
6.234	0.226	-32.27	2.93	0.00	0.00	22.00	25.00
6.460	0.226	-32.27	3.60	0.00	0.00	22.00	25.00
6.686	0.001	-32.27	0.01	0.00	0.00	22.00	25.00
6.687	0.183	-32.19	3.40	0.00	0.00	22.00	25.00
6.870	0.140	-32.19	2.90	0.00	0.00	22.00	25.00
7.010	0.226	-32.11	5.25	0.00	0.00	22.00	25.00
7.236	0.065	-32.11	1.63	0.00	0.00	22.00	25.00
7.301	0.226	-32.02	6.14	0.00	0.00	22.00	25.00
7.527	0.031	-32.02	0.90	0.00	0.00	22.00	25.00
7.559	0.226	-31.94	6.92	0.00	0.00	22.00	25.00
7.785	0.040	-31.94	1.31	0.00	0.00	22.00	25.00
7.825	0.226	-31.86	7.72	0.00	0.00	22.00	25.00
8.052	0.048	-31.86	1.73	0.00	0.00	22.00	25.00
8.100	0.070	-31.79	2.58	0.00	0.00	22.00	25.00
8.170	0.170	-31.79	6.53	0.00	0.00	22.00	25.00
8.340	0.052	-31.79	2.08	0.00	0.00	22.00	25.00
8.392	0.226	-31.72	9.83	0.00	0.00	22.00	25.00
8.618	0.088	-31.72	4.12	0.00	0.00	22.00	25.00
8.706	0.226	-29.18	11.43	0.00	0.00	22.00	25.00
8.932	0.024	-29.18	1.29	0.00	0.00	22.00	25.00
8.956	0.226	-25.29	12.62	0.00	0.00	22.00	25.00
9.183	0.000	-25.29	0.02	0.00	0.00	22.00	25.00
9.183	0.201	-19.91	12.00	0.00	0.00	22.00	25.00
9.384	0.226	-14.21	14.35	0.00	0.00	22.00	25.00
9.610	0.008	-14.21	0.50	0.00	0.00	22.00	25.00

9.618	0.196	-8.29	13.10	0.00	0.00	22.00	25.00
9.814	0.106	-1.95	7.27	0.00	0.00	22.00	25.00
9.920	0.117	-1.95	8.19	0.00	0.00	22.00	25.00
10.037	0.093	3.03	6.58	0.00	0.00	22.00	25.00
10.130	0.153	3.03	11.04	0.00	0.00	22.00	25.00
10.283	0.226	6.37	16.68	0.00	0.00	22.00	25.00
10.510	0.092	6.37	6.87	0.00	0.00	22.00	25.00
10.601	0.226	6.37	17.25	0.00	0.00	22.00	25.00
10.828	0.067	6.37	5.20	0.00	0.00	22.00	25.00
10.895	0.226	6.37	17.79	0.00	0.00	22.00	25.00
11.121	0.049	6.37	3.88	0.00	0.00	22.00	25.00
11.170	0.030	6.37	2.41	0.00	0.00	22.00	25.00
11.200	0.226	6.37	18.21	0.00	0.00	22.00	25.00
11.426	0.011	6.37	0.90	0.00	0.00	22.00	25.00
11.438	0.226	6.37	18.37	0.00	0.00	22.00	25.00
11.664	0.032	6.37	2.57	0.00	0.00	22.00	25.00
11.695	0.195	6.38	15.92	0.00	0.00	22.00	25.00
11.890	0.069	6.38	5.64	0.00	0.00	22.00	25.00
11.959	0.226	6.38	18.53	0.00	0.00	22.00	25.00
12.185	0.040	6.38	3.23	0.00	0.00	22.00	25.00
12.225	0.226	6.38	18.44	0.00	0.00	22.00	25.00
12.451	0.009	6.38	0.73	0.00	0.00	22.00	25.00
12.460	0.039	6.38	3.15	0.00	0.00	22.00	25.00
12.499	0.226	6.38	18.32	0.00	0.00	22.00	25.00
12.725	0.035	6.38	2.81	0.00	0.00	22.00	25.00
12.760	0.022	6.38	1.80	0.00	0.00	22.00	25.00
12.782	0.218	8.29	17.47	0.00	0.00	22.00	25.00
13.000	0.034	8.29	2.74	0.00	0.00	22.00	25.00
13.034	0.226	10.54	18.33	0.00	0.00	22.00	25.00
13.261	0.017	10.54	1.38	0.00	0.00	22.00	25.00
13.277	0.226	12.99	18.68	0.00	0.00	22.00	25.00
13.504	0.006	12.99	0.49	0.00	0.00	22.00	25.00
13.510	0.226	15.33	18.96	0.00	0.00	22.00	25.00
13.736	0.023	15.33	1.92	0.00	0.00	22.00	25.00
13.759	0.226	17.66	19.22	0.00	0.00	22.00	25.00
13.985	0.008	17.66	0.66	0.00	0.00	22.00	25.00
13.993	0.007	19.95	0.60	0.00	0.00	22.00	25.00
14.000	0.226	19.95	19.41	0.00	0.00	22.00	25.00
14.226	0.012	19.95	1.06	0.00	0.00	22.00	25.00
14.239	0.226	21.95	19.55	0.00	0.00	22.00	25.00
14.465	0.031	21.95	2.66	0.00	0.00	22.00	25.00
14.496	0.226	23.59	19.66	0.00	0.00	22.00	25.00
14.722	0.063	23.59	5.51	0.00	0.00	22.00	25.00
14.785	0.226	24.12	19.75	0.00	0.00	22.00	25.00
15.012	0.045	24.12	3.98	0.00	0.00	22.00	25.00
15.057	0.226	24.70	19.82	0.00	0.00	22.00	25.00
15.284	0.036	24.70	3.12	0.00	0.00	22.00	25.00
15.319	0.226	25.29	19.88	0.00	0.00	22.00	25.00
15.545	0.030	25.29	2.62	0.00	0.00	22.00	25.00
15.575	0.226	25.90	19.92	0.00	0.00	22.00	25.00
15.802	0.030	25.90	2.60	0.00	0.00	22.00	25.00
15.831	0.079	26.48	6.94	0.00	0.00	22.00	25.00
15.910	0.174	26.48	15.29	0.00	0.00	22.00	25.00

16.084	0.226	27.05	19.61	0.00	0.00	22.00	25.00
16.311	0.029	27.05	2.53	0.00	0.00	22.00	25.00
16.340	0.226	27.60	19.31	0.00	0.00	22.00	25.00
16.567	0.033	27.60	2.79	0.00	0.00	22.00	25.00
16.600	0.226	28.12	18.98	0.00	0.00	22.00	25.00
16.826	0.041	28.12	3.42	0.00	0.00	22.00	25.00
16.867	0.226	28.45	18.64	0.00	0.00	22.00	25.00
17.093	0.035	28.45	2.88	0.00	0.00	22.00	25.00
17.129	0.226	28.78	18.29	0.00	0.00	22.00	25.00
17.355	0.032	28.78	2.55	0.00	0.00	22.00	25.00
17.387	0.226	29.12	17.94	0.00	0.00	22.00	25.00
17.613	0.030	29.12	2.36	0.00	0.00	22.00	25.00
17.643	0.187	29.46	14.52	0.00	0.00	22.00	25.00
17.830	0.070	29.46	5.39	0.00	0.00	22.00	25.00
17.900	0.140	29.80	10.66	0.00	0.00	22.00	25.00
18.040	0.116	29.80	8.67	0.00	0.00	22.00	25.00
18.156	0.226	30.13	16.57	0.00	0.00	22.00	25.00
18.382	0.008	30.13	0.58	0.00	0.00	22.00	25.00
18.390	0.022	30.13	1.57	0.00	0.00	22.00	25.00
18.412	0.226	30.45	15.93	0.00	0.00	22.00	25.00
18.638	0.031	30.45	2.17	0.00	0.00	22.00	25.00
18.670	0.226	30.77	15.27	0.00	0.00	22.00	25.00
18.896	0.034	30.77	2.26	0.00	0.00	22.00	25.00
18.930	0.226	30.77	14.60	0.00	0.00	22.00	25.00
19.157	0.035	30.77	2.19	0.00	0.00	22.00	25.00
19.191	0.226	30.77	13.92	0.00	0.00	22.00	25.00
19.418	0.033	30.77	2.00	0.00	0.00	22.00	25.00
19.451	0.059	30.78	3.50	0.00	0.00	22.00	25.00
19.510	0.201	30.78	11.64	0.00	0.00	22.00	25.00
19.711	0.226	30.78	12.50	0.00	0.00	22.00	25.00
19.938	0.032	30.78	1.69	0.00	0.00	22.00	25.00
19.969	0.226	30.78	11.76	0.00	0.00	22.00	25.00
20.195	0.035	30.78	1.75	0.00	0.00	22.00	25.00
20.230	0.120	30.78	5.91	0.00	0.00	22.00	25.00
20.350	0.142	30.78	6.79	0.00	0.00	22.00	25.00
20.492	0.226	30.78	10.36	0.00	0.00	22.00	25.00
20.718	0.039	30.78	1.74	0.00	0.00	22.00	25.00
20.758	0.226	30.78	9.70	0.00	0.00	22.00	25.00
20.984	0.042	30.78	1.74	0.00	0.00	22.00	25.00
21.026	0.226	31.74	9.02	0.00	0.00	22.00	25.00
21.252	0.029	31.74	1.12	0.00	0.00	22.00	25.00
21.282	0.118	32.75	4.44	0.00	0.00	22.00	25.00
21.400	0.133	32.75	4.80	0.00	0.00	22.00	25.00
21.533	0.226	33.77	7.64	0.00	0.00	22.00	25.00
21.760	0.021	33.77	0.68	0.00	0.00	22.00	25.00
21.781	0.226	34.77	6.92	0.00	0.00	22.00	25.00
22.007	0.028	34.77	0.82	0.00	0.00	22.00	25.00
22.036	0.226	36.04	6.15	0.00	0.00	22.00	25.00
22.262	0.052	36.04	1.32	0.00	0.00	22.00	25.00
22.314	0.226	37.04	5.27	0.00	0.00	22.00	25.00
22.541	0.089	37.04	1.88	0.00	0.00	22.00	25.00
22.630	0.001	37.04	0.01	0.00	0.00	22.00	25.00
22.631	0.226	37.94	4.23	0.00	0.00	22.00	25.00

22.857	0.225	37.94	3.45	0.00	0.00	22.00	25.00
23.082	0.226	38.40	2.70	0.00	0.00	22.00	25.00
23.308	0.226	38.40	1.92	0.00	0.00	22.00	25.00
23.534	0.226	38.40	1.14	0.00	0.00	22.00	25.00
23.761	0.216	38.40	0.36	0.00	0.00	22.00	25.00

 LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
 dx(m) : Larghezza concio
 alpha(°) : Angolo pendenza base concio
 W(kN/m) : Forza peso concio
 ru(-) : Coefficiente locale pressione interstiziale
 U(kPa) : Pressione totale dei pori base concio
 phi'(°) : Angolo di attrito efficace base concio
 c'/Cu (kPa) : Coesione efficace o Resistenza al taglio in condizioni non drenate

TABELLA DIAGRAMMA DELLE FORZE DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	ht (m)	yt (m)	yt' (--)	E(x) (kN/m)	T(x) (kN/m)	E' (kN)	rho(x) (--)	FS_qFEM (--)	FS_srmFEM (--)
5.361	0.000	4.168	-0.476	0.0000000000E+000	0.0000000000E+000	0.0000000000E+000	0.128	50.000	50.000
5.588	0.038	4.063	-0.476	2.6052881475E-001	3.5953637012E-004	2.3050880112E+000	0.128	50.000	50.000
5.814	0.071	3.953	-0.470	1.0435446364E+000	1.1658768296E-002	5.0091070351E+000	0.128	24.522	23.423
6.040	0.112	3.850	-0.497	2.5282195729E+000	7.2907062954E-002	9.1906209462E+000	0.128	12.839	12.467
6.234	0.128	3.744	-0.485	4.7401853133E+000	2.2459073641E-001	1.2933551827E+001	0.128	8.949	8.772
6.460	0.173	3.646	-0.414	8.0638437316E+000	4.6384082689E-001	1.5828091793E+001	0.128	7.326	7.182
6.686	0.226	3.556	-0.398	1.1905777349E+001	7.5878097281E-001	2.1608162283E+001	0.128	6.456	6.303
6.687	0.226	3.556	-0.382	1.1918979423E+001	7.5983618337E-001	2.1618095429E+001	0.128	6.454	6.301
6.870	0.272	3.486	-0.383	1.5732571112E+001	1.0644849545E+000	2.2715475913E+001	0.128	6.023	5.840
7.010	0.306	3.433	-0.393	1.9109020230E+001	1.3501271060E+000	2.6085150104E+001	0.146	5.804	5.587
7.236	0.358	3.342	-0.400	2.5725019853E+001	1.9536480223E+000	3.2140241275E+001	0.178	5.621	5.311
7.301	0.372	3.316	-0.374	2.7856319258E+001	2.1623994462E+000	3.2720631629E+001	0.188	5.614	5.267
7.527	0.431	3.233	-0.365	3.5063745021E+001	2.8900214941E+000	3.2996418315E+001	0.218	5.671	5.182
7.559	0.439	3.222	-0.351	3.6103330455E+001	2.9996301642E+000	3.3401259734E+001	0.222	5.692	5.179
7.785	0.501	3.143	-0.352	4.4063971187E+001	3.8858262447E+000	3.9766544341E+001	0.253	5.979	5.230
7.825	0.512	3.128	-0.301	4.5706216633E+001	4.0811644935E+000	3.9956423247E+001	0.259	6.054	5.250
8.052	0.587	3.063	-0.287	5.3950289489E+001	5.1464307959E+000	4.0457901561E+001	0.292	6.754	5.480
8.100	0.603	3.049	-0.266	5.5938370854E+001	5.4286838632E+000	4.0910636104E+001	0.301	6.972	5.559
8.170	0.629	3.031	-0.242	5.8766732108E+001	5.8356149398E+000	4.0459846013E+001	0.313	7.314	5.681
8.340	0.694	2.991	-0.233	6.5702725255E+001	6.8802382410E+000	4.2205790429E+001	0.340	8.318	6.029
8.392	0.714	2.980	-0.190	6.7906562938E+001	7.2205411227E+000	4.2955961860E+001	0.347	8.681	6.151
8.618	0.813	2.939	-0.175	7.7949785103E+001	8.9004365408E+000	4.6698319098E+001	0.377	10.567	6.805
8.706	0.854	2.925	-0.118	8.2120283913E+001	9.6325437606E+000	4.7453205382E+001	0.389	11.410	7.101
8.932	0.957	2.902	-0.098	9.2775835169E+001	1.1651600628E+001	4.6259777837E+001	0.423	13.311	7.935
8.956	0.969	2.900	-0.024	9.3898908016E+001	1.1875666111E+001	4.6076565448E+001	0.427	13.432	8.023
9.183	1.071	2.895	-0.020	1.0412705201E+002	1.4032217277E+001	4.7093586642E+001	0.461	13.335	8.761
9.183	1.072	2.895	0.041	1.0413960580E+002	1.4034945341E+001	4.7083363872E+001	0.461	13.334	8.762
9.384	1.152	2.904	0.073	1.1170148875E+002	1.5772574784E+001	3.4717610708E+001	0.487	12.026	9.113
9.610	1.233	2.927	0.103	1.1879803367E+002	1.7595535121E+001	2.5090548121E+001	0.512	10.362	9.109

9.618	1.236	2.928	0.155	1.1898709451E+002	1.7647504197E+001	2.4895291416E+001	0.513	10.314	9.103
9.814	1.295	2.958	0.166	1.2395454721E+002	1.9095473504E+001	2.1979992458E+001	0.533	9.160	8.802
9.920	1.318	2.978	0.200	1.2609581720E+002	1.9793490253E+001	1.9727992342E+001	0.542	8.646	8.550
10.037	1.347	3.003	0.245	1.2834846736E+002	2.0572730359E+001	1.8734307878E+001	0.554	8.140	8.245
10.130	1.369	3.029	0.283	1.3005080384E+002	2.1233927454E+001	1.6831997021E+001	0.564	7.796	7.923
10.283	1.404	3.073	0.302	1.3224282234E+002	2.2175585085E+001	1.3150511389E+001	0.579	7.358	7.424
10.510	1.450	3.144	0.317	1.3483341573E+002	2.3460603979E+001	1.0000775081E+001	0.598	6.929	6.736
10.601	1.469	3.173	0.318	1.3569643692E+002	2.3926522787E+001	9.1552946239E+000	0.605	6.800	6.499
10.828	1.516	3.245	0.312	1.3762299928E+002	2.4987441210E+001	7.4864448137E+000	0.619	6.528	5.994
10.895	1.528	3.265	0.273	1.3810586543E+002	2.5254365267E+001	6.9945386466E+000	0.622	6.465	5.873
11.121	1.563	3.325	0.262	1.3954620097E+002	2.6023075471E+001	6.0632142450E+000	0.629	6.300	5.556
11.170	1.569	3.337	0.234	1.3983793810E+002	2.6166538869E+001	5.6921175928E+000	0.630	6.271	5.501
11.200	1.573	3.344	0.203	1.4000397834E+002	2.6244964476E+001	5.5098987886E+000	0.631	6.257	5.474
11.426	1.593	3.389	0.200	1.4126490078E+002	2.6768953616E+001	5.5800176484E+000	0.638	6.169	5.303
11.438	1.594	3.391	0.179	1.4132737955E+002	2.6791333323E+001	5.5955022598E+000	0.638	6.166	5.297
11.664	1.609	3.432	0.179	1.4266267127E+002	2.7243924373E+001	6.4657982551E+000	0.644	6.096	5.179
11.695	1.611	3.437	0.154	1.4286928056E+002	2.7304724369E+001	6.4810376275E+000	0.644	6.086	5.165
11.890	1.619	3.467	0.152	1.4405351366E+002	2.7631154649E+001	6.5956589254E+000	0.647	6.030	5.100
11.959	1.622	3.478	0.134	1.4451881521E+002	2.7750508883E+001	6.5801038497E+000	0.650	6.004	5.076
12.185	1.625	3.506	0.128	1.4586291930E+002	2.8065063527E+001	6.0567375092E+000	0.657	5.919	5.021
12.225	1.626	3.512	0.121	1.4610368697E+002	2.8119348329E+001	5.9261967561E+000	0.658	5.898	5.011
12.451	1.627	3.538	0.119	1.4724940769E+002	2.8365189083E+001	4.4241849859E+000	0.663	5.775	4.956
12.460	1.627	3.539	0.121	1.4728895539E+002	2.8373627017E+001	4.3942700494E+000	0.664	5.768	4.953
12.499	1.628	3.544	0.132	1.4745852778E+002	2.8409673776E+001	4.2701532617E+000	0.665	5.741	4.942
12.725	1.633	3.574	0.135	1.4828726475E+002	2.8596892115E+001	3.1531261318E+000	0.670	5.555	4.867
12.760	1.634	3.580	0.150	1.4839451154E+002	2.8623725820E+001	2.9994202846E+000	0.671	5.521	4.854
12.782	1.635	3.583	0.168	1.4846030817E+002	2.8640850178E+001	2.8154922173E+000	0.672	5.499	4.845
13.000	1.640	3.620	0.187	1.4878473328E+002	2.8789916176E+001	9.1254724619E-001	0.678	5.223	4.726
13.034	1.645	3.630	0.303	1.4881286826E+002	2.8812552755E+001	5.8910614444E-001	0.677	5.176	4.705
13.261	1.672	3.699	0.303	1.4859816825E+002	2.8926478303E+001	-1.5483023949E+000	0.672	4.851	4.547
13.277	1.674	3.704	0.333	1.4857131563E+002	2.8934024008E+001	-1.7273598576E+000	0.672	4.826	4.535
13.504	1.698	3.780	0.336	1.4777183237E+002	2.8991157656E+001	-4.3439505901E+000	0.667	4.500	4.358
13.510	1.698	3.782	0.366	1.4774591495E+002	2.8992000836E+001	-4.4105875655E+000	0.667	4.492	4.354
13.736	1.719	3.865	0.366	1.4635627941E+002	2.8964938994E+001	-7.2237131613E+000	0.663	4.199	4.177
13.759	1.721	3.873	0.378	1.4618938206E+002	2.8957036728E+001	-7.4546859949E+000	0.663	4.171	4.160
13.985	1.735	3.959	0.378	1.4422750837E+002	2.8818293171E+001	-9.7209891574E+000	0.658	3.925	3.993
13.993	1.735	3.962	0.364	1.4415240070E+002	2.8811051140E+001	-9.8567781685E+000	0.658	3.918	3.988
14.000	1.735	3.964	0.391	1.4408196336E+002	2.8804051795E+001	-9.9929975677E+000	0.657	3.911	3.983
14.226	1.742	4.053	0.392	1.4149944804E+002	2.8516984362E+001	-1.3177607641E+001	0.652	3.704	3.820
14.239	1.742	4.058	0.434	1.4133583864E+002	2.8495636636E+001	-1.3342473314E+001	0.651	3.693	3.811
14.465	1.750	4.156	0.439	1.3803066196E+002	2.8040022337E+001	-1.6477475217E+001	0.644	3.499	3.639
14.496	1.751	4.171	0.481	1.3751774567E+002	2.7960735907E+001	-1.6873949761E+001	0.642	3.473	3.614
14.722	1.762	4.280	0.494	1.3346016339E+002	2.7306811657E+001	-2.0197460923E+001	0.632	3.297	3.438
14.785	1.768	4.314	0.546	1.3214166310E+002	2.7076936800E+001	-2.1097982391E+001	0.628	3.249	3.387
15.012	1.791	4.438	0.543	1.2715121067E+002	2.6170615009E+001	-2.2149467861E+001	0.613	3.089	3.211
15.057	1.794	4.461	0.486	1.2614316452E+002	2.5982026847E+001	-2.2017078933E+001	0.610	3.060	3.178
15.284	1.799	4.570	0.481	1.2133186438E+002	2.5043375139E+001	-2.1403794466E+001	0.594	2.942	3.043
15.319	1.800	4.587	0.482	1.2056874579E+002	2.4889888786E+001	-2.1346527076E+001	0.591	2.925	3.023
15.545	1.802	4.697	0.480	1.1585279703E+002	2.3911806561E+001	-2.1733710079E+001	0.574	2.836	2.919
15.575	1.801	4.710	0.429	1.1520236311E+002	2.3774178184E+001	-2.1727500986E+001	0.571	2.824	2.906
15.802	1.788	4.806	0.425	1.1049850799E+002	2.2751899622E+001	-2.1938986621E+001	0.553	2.753	2.827
15.831	1.786	4.819	0.417	1.0984517821E+002	2.2606979735E+001	-2.1820890103E+001	0.550	2.744	2.817
15.910	1.779	4.851	0.408	1.0818211734E+002	2.2235118436E+001	-2.1432720471E+001	0.543	2.722	2.793

16.084	1.763	4.923	0.410	1.0431722124E+002	2.1346045224E+001	-2.2664662001E+001	0.531	2.679	2.747
16.311	1.741	5.016	0.413	9.9039368341E+001	2.0103169249E+001	-2.4047065262E+001	0.512	2.628	2.693
16.340	1.738	5.028	0.406	9.8328284510E+001	1.9933033188E+001	-2.4119180793E+001	0.509	2.622	2.686
16.567	1.712	5.120	0.405	9.2908657810E+001	1.8620025279E+001	-2.4460392592E+001	0.488	2.580	2.642
16.600	1.708	5.133	0.407	9.2099213248E+001	1.8421846252E+001	-2.4556226908E+001	0.485	2.575	2.636
16.826	1.679	5.225	0.406	8.6509053138E+001	1.7046097780E+001	-2.4611859617E+001	0.461	2.541	2.599
16.867	1.673	5.242	0.400	8.5495850662E+001	1.6796253965E+001	-2.4578414426E+001	0.456	2.535	2.593
17.093	1.641	5.332	0.392	7.9954861534E+001	1.5436241209E+001	-2.1649308809E+001	0.431	2.510	2.565
17.129	1.634	5.344	0.374	7.9207049840E+001	1.5253785585E+001	-2.1488595059E+001	0.428	2.507	2.562
17.355	1.596	5.430	0.381	7.3935977726E+001	1.3983932498E+001	-2.4930752348E+001	0.404	2.491	2.544
17.387	1.591	5.443	0.387	7.3134893119E+001	1.3793022564E+001	-2.5014057740E+001	0.400	2.489	2.541
17.613	1.552	5.530	0.384	6.7710895671E+001	1.2516851745E+001	-2.3666432951E+001	0.374	2.479	2.531
17.643	1.546	5.541	0.358	6.7001173349E+001	1.2352005953E+001	-2.3464705384E+001	0.371	2.478	2.530
17.830	1.507	5.608	0.354	6.2808920658E+001	1.1391705068E+001	-2.2524403668E+001	0.351	2.475	2.527
17.900	1.492	5.632	0.338	6.1228718466E+001	1.1035566508E+001	-2.2157572245E+001	0.343	2.475	2.528
18.040	1.459	5.679	0.331	5.8238088496E+001	1.0367131181E+001	-2.1564957019E+001	0.329	2.476	2.531
18.156	1.431	5.717	0.322	5.5727824697E+001	9.8166497267E+000	-2.1427962048E+001	0.319	2.480	2.536
18.382	1.371	5.789	0.317	5.1008523093E+001	8.7941671378E+000	-2.2175188911E+001	0.298	2.491	2.549
18.390	1.369	5.791	0.338	5.0828781511E+001	8.7557518990E+000	-2.2195171120E+001	0.297	2.492	2.550
18.412	1.364	5.799	0.318	5.0345749238E+001	8.6526224745E+000	-2.2000804229E+001	0.295	2.493	2.552
18.638	1.302	5.870	0.315	4.5648178697E+001	7.6581928842E+000	-2.0027230855E+001	0.274	2.514	2.574
18.670	1.293	5.880	0.307	4.5022189062E+001	7.5270519804E+000	-1.9904727881E+001	0.271	2.518	2.578
18.896	1.228	5.949	0.308	4.0552148979E+001	6.6002704230E+000	-2.0015366810E+001	0.250	2.546	2.607
18.930	1.219	5.960	0.313	3.9863732378E+001	6.4591761705E+000	-1.9946971211E+001	0.246	2.551	2.612
19.157	1.155	6.031	0.314	3.5511269705E+001	5.5779848390E+000	-1.9381578004E+001	0.224	2.590	2.649
19.191	1.145	6.042	0.328	3.4836157371E+001	5.4431697866E+000	-1.9341383734E+001	0.220	2.597	2.655
19.418	1.085	6.117	0.330	3.0551988860E+001	4.6027664750E+000	-1.8979459095E+001	0.197	2.649	2.704
19.451	1.076	6.128	0.341	2.9919160398E+001	4.4800950731E+000	-1.9071268587E+001	0.193	2.658	2.712
19.510	1.061	6.148	0.322	2.8787545350E+001	4.2615995155E+000	-1.8610787798E+001	0.187	2.673	2.728
19.711	1.005	6.212	0.320	2.5462234431E+001	3.6427669289E+000	-1.6207768408E+001	0.168	2.728	2.779
19.938	0.943	6.285	0.326	2.1875650511E+001	2.9993134055E+000	-1.5852393600E+001	0.148	2.799	2.848
19.969	0.935	6.296	0.333	2.1375195240E+001	2.9120447839E+000	-1.5702861244E+001	0.145	2.811	2.859
20.195	0.876	6.371	0.335	1.8065165096E+001	2.3514974072E+000	-1.4642560815E+001	0.128	2.890	2.940
20.230	0.867	6.383	0.369	1.7556047347E+001	2.2682036200E+000	-1.4688458567E+001	0.128	2.903	2.953
20.350	0.841	6.428	0.368	1.5778779100E+001	1.9839437400E+000	-1.4188603816E+001	0.128	2.949	3.002
20.492	0.808	6.480	0.363	1.3872537471E+001	1.6933213213E+000	-1.3016066456E+001	0.128	2.999	3.058
20.718	0.755	6.562	0.360	1.1072196434E+001	1.2875432397E+000	-1.1032626069E+001	0.128	3.066	3.137
20.758	0.745	6.575	0.366	1.0648742434E+001	1.2301115214E+000	-1.0815620293E+001	0.128	3.074	3.148
20.984	0.694	6.659	0.373	8.1811220338E+000	9.0966057489E-001	-1.0990141090E+001	0.128	3.101	3.195
21.026	0.686	6.675	0.391	7.7170337581E+000	8.5183581121E-001	-1.0866652361E+001	0.128	3.102	3.200
21.252	0.634	6.764	0.393	5.4274273720E+000	5.8527800276E-001	-9.9210304405E+000	0.128	3.075	3.199
21.282	0.628	6.776	0.392	5.1392636013E+000	5.5354563429E-001	-9.7488567689E+000	0.128	3.068	3.195
21.400	0.598	6.822	0.404	4.0558548869E+000	4.3811059758E-001	-8.9065011026E+000	0.128	3.034	3.174
21.533	0.568	6.877	0.429	2.9043750095E+000	3.2917700135E-001	-8.4251754006E+000	0.128	2.973	3.127
21.760	0.515	6.976	0.437	1.0766720405E+000	1.7343316267E-001	-7.7776875441E+000	0.128	2.843	3.017
21.781	0.510	6.986	0.432	9.1199531386E-001	1.6021764654E-001	-7.6746409619E+000	0.128	2.829	3.006
22.007	0.451	7.083	0.430	-6.4390854819E-001	4.4168181612E-002	-6.2346445698E+000	0.128	2.692	2.884
22.036	0.443	7.095	0.432	-8.1829662267E-001	3.2355286577E-002	-6.0874636826E+000	0.128	2.675	2.868
22.262	0.376	7.193	0.431	-2.0747358357E+000	-4.5107276048E-002	-4.9172909007E+000	0.128	2.550	2.752
22.314	0.360	7.216	0.443	-2.3246816794E+000	-5.8575278770E-002	-4.6371201101E+000	0.128	2.522	2.727
22.541	0.291	7.316	0.433	-3.2437061421E+000	-1.0098921002E-001	-3.0191793525E+000	0.128	2.422	2.629
22.630	0.259	7.352	0.400	-3.4764261454E+000	-1.0813084509E-001	-2.2647400468E+000	0.128	2.394	2.600
22.631	0.259	7.352	0.470	-3.4776596701E+000	-1.0816268990E-001	-2.2617582980E+000	0.128	2.393	2.600

22.857	0.189	7.459	0.520	-3.9071379848E+000	-1.1405771452E-001	-1.7185155163E+000	0.128	2.304	2.513
23.082	0.141	7.587	0.674	-4.2536299977E+000	-1.0533025069E-001	-2.9777954808E-001	0.128	2.253	2.456
23.308	0.138	7.763	0.675	-4.0377956118E+000	-5.9836746429E-002	2.2064828668E+000	0.128	2.250	2.419
23.534	0.088	7.893	0.582	-3.2547252488E+000	-2.2575187147E-002	4.7438741144E+000	0.128	2.409	2.497
23.761	0.043	8.026	0.582	-1.8901793977E+000	-6.4246270811E-003	7.4192905497E+000	0.128	4.990	5.444

 LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
 ht(m) : Altezza linea di thrust da nodo sinistro base concio
 yt(m) : coordinata Y linea di trust
 yt'(-) : gradiente pendenza locale linea di trust
 E(x) (kN/m) : Forza Normale interconcio
 T(x) (kN/m) : Forza Tangenziale interconcio
 E' (kN) : derivata Forza normale interconcio
 Rho(x) (-) : fattore mobilizzazione resistenza al taglio verticale interconcio ZhU et al.(2003)
 FS_qFEM(x) (-) : fattore di sicurezza locale stimato (locale in X) by qFEM
 FS_srmFEM(x) (-) : fattore di sicurezza locale stimato (locale in X) by SRM Procedure

TABELLA SFORZI DI TAGLIO DISTRIBUITI LUNGO SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	dl (m)	alpha (°)	TauStress (kPa)	TauF (kN/m)	TauStrength (kPa)	TauS (kN/m)
5.361	0.226	0.268	-32.309	-0.672	-0.180	25.432	6.811
5.588	0.226	0.268	-32.309	-2.015	-0.540	26.388	7.067
5.814	0.226	0.268	-32.309	-3.358	-0.899	27.691	7.416
6.040	0.193	0.229	-32.309	-4.603	-1.053	29.524	6.755
6.234	0.226	0.268	-32.267	-5.843	-1.564	30.871	8.264
6.460	0.226	0.268	-32.267	-7.183	-1.923	32.225	8.627
6.686	0.001	0.001	-32.267	-7.855	-0.006	33.513	0.024
6.687	0.183	0.216	-32.192	-8.387	-1.813	33.739	7.293
6.870	0.140	0.165	-32.192	-9.351	-1.545	35.118	5.803
7.010	0.226	0.267	-32.114	-10.448	-2.792	37.095	9.914
7.236	0.065	0.076	-32.114	-11.328	-0.865	38.796	2.961
7.301	0.226	0.267	-32.017	-12.186	-3.253	39.341	10.503
7.527	0.031	0.037	-32.017	-12.962	-0.479	40.408	1.494
7.559	0.226	0.267	-31.937	-13.717	-3.659	41.760	11.139
7.785	0.040	0.048	-31.937	-14.517	-0.692	44.113	2.103
7.825	0.226	0.267	-31.861	-15.295	-4.076	44.393	11.831
8.052	0.048	0.057	-31.861	-16.115	-0.913	47.255	2.677
8.100	0.070	0.083	-31.788	-16.446	-1.357	47.361	3.909
8.170	0.170	0.200	-31.788	-17.202	-3.440	48.544	9.709
8.340	0.052	0.061	-31.788	-18.015	-1.096	49.953	3.038
8.392	0.226	0.266	-31.723	-19.420	-5.168	52.572	13.990
8.618	0.088	0.103	-31.723	-21.029	-2.166	55.497	5.716
8.706	0.226	0.259	-29.178	-21.489	-5.571	57.834	14.994
8.932	0.024	0.028	-29.178	-22.649	-0.631	59.240	1.650
8.956	0.226	0.250	-25.295	-21.535	-5.391	60.650	15.184
9.183	0.000	0.000	-25.295	-22.414	-0.007	62.681	0.018
9.183	0.201	0.213	-19.909	-19.153	-4.086	60.081	12.817

9.384	0.226	0.234	-14.212	-15.090	-3.524	59.470	13.887
9.610	0.008	0.008	-14.212	-15.530	-0.122	58.604	0.459
9.618	0.196	0.199	-8.293	-9.514	-1.889	58.315	11.579
9.814	0.106	0.106	-1.952	-2.336	-0.248	56.207	5.962
9.920	0.117	0.117	-1.952	-2.379	-0.279	56.743	6.659
10.037	0.093	0.093	3.029	3.742	0.347	55.010	5.107
10.130	0.153	0.153	3.029	3.802	0.583	55.267	8.480
10.283	0.226	0.228	6.370	8.124	1.850	54.267	12.360
10.510	0.092	0.092	6.370	8.265	0.762	54.790	5.053
10.601	0.226	0.228	6.371	8.406	1.915	55.308	12.597
10.828	0.067	0.068	6.371	8.536	0.577	55.795	3.775
10.895	0.226	0.228	6.372	8.668	1.974	56.278	12.818
11.121	0.049	0.049	6.372	8.789	0.430	56.729	2.776
11.170	0.030	0.030	6.373	8.826	0.268	56.863	1.727
11.200	0.226	0.228	6.373	8.875	2.022	57.050	12.994
11.426	0.011	0.011	6.373	8.914	0.100	57.195	0.644
11.438	0.226	0.228	6.374	8.953	2.039	57.332	13.058
11.664	0.032	0.032	6.374	8.995	0.286	57.484	1.826
11.695	0.195	0.196	6.376	9.032	1.768	57.621	11.278
11.890	0.069	0.069	6.376	9.058	0.626	57.712	3.988
11.959	0.226	0.228	6.377	9.035	2.058	57.632	13.126
12.185	0.040	0.040	6.377	9.013	0.359	57.553	2.294
12.225	0.226	0.228	6.378	8.992	2.048	57.480	13.092
12.451	0.009	0.009	6.378	8.973	0.081	57.413	0.519
12.460	0.039	0.039	6.378	8.968	0.350	57.394	2.239
12.499	0.226	0.228	6.379	8.937	2.036	57.281	13.047
12.725	0.035	0.035	6.379	8.906	0.313	57.168	2.006
12.760	0.022	0.022	6.379	8.899	0.200	57.144	1.282
12.782	0.218	0.220	8.293	11.456	2.520	56.651	12.464
13.000	0.034	0.035	8.293	11.430	0.396	56.583	1.958
13.034	0.226	0.230	10.536	14.557	3.352	56.470	13.002
13.261	0.017	0.017	10.536	14.703	0.252	56.806	0.974
13.277	0.226	0.232	12.986	18.065	4.196	56.536	13.133
13.504	0.006	0.006	12.986	18.214	0.111	56.846	0.346
13.510	0.226	0.235	15.335	21.364	5.014	56.548	13.272
13.736	0.023	0.024	15.335	21.522	0.508	56.918	1.343
13.759	0.226	0.238	17.662	24.547	5.831	56.601	13.446
13.985	0.008	0.008	17.662	24.687	0.199	57.021	0.461
13.993	0.007	0.008	19.952	27.398	0.206	56.354	0.424
14.000	0.226	0.241	19.952	27.508	6.624	56.720	13.659
14.226	0.012	0.013	19.952	27.620	0.362	57.249	0.751
14.239	0.226	0.244	21.953	29.948	7.309	56.992	13.909
14.465	0.031	0.033	21.953	30.044	0.993	57.650	1.905
14.496	0.226	0.247	23.589	31.850	7.867	57.547	14.214
14.722	0.063	0.069	23.589	31.930	2.205	58.411	4.034
14.785	0.226	0.248	24.121	32.545	8.071	58.737	14.567
15.012	0.045	0.050	24.121	32.609	1.625	58.952	2.937
15.057	0.226	0.249	24.699	33.245	8.283	58.850	14.662
15.284	0.036	0.039	24.699	33.297	1.305	59.078	2.316
15.319	0.226	0.250	25.294	33.925	8.493	58.968	14.763
15.545	0.030	0.033	25.294	33.964	1.118	59.350	1.954
15.575	0.226	0.252	25.898	34.573	8.699	59.087	14.868
15.802	0.030	0.033	25.898	34.600	1.138	59.562	1.958

15.831	0.079	0.088	26.475	35.149	3.095	59.197	5.212
15.910	0.174	0.195	26.475	34.982	6.815	59.518	11.595
16.084	0.226	0.254	27.047	35.090	8.918	59.523	15.128
16.311	0.029	0.033	27.047	34.822	1.152	59.662	1.973
16.340	0.226	0.255	27.598	35.017	8.944	59.343	15.157
16.567	0.033	0.037	27.598	34.729	1.293	59.379	2.210
16.600	0.226	0.257	28.119	34.859	8.947	59.119	15.173
16.826	0.041	0.047	28.119	34.545	1.613	58.866	2.749
16.867	0.226	0.257	28.446	34.484	8.877	58.476	15.054
17.093	0.035	0.040	28.446	34.166	1.370	57.163	2.292
17.129	0.226	0.258	28.783	34.099	8.807	57.402	14.825
17.355	0.032	0.036	28.783	33.775	1.227	57.668	2.095
17.387	0.226	0.259	29.123	33.695	8.731	56.875	14.737
17.613	0.030	0.034	29.123	33.363	1.147	56.437	1.941
17.643	0.187	0.214	29.463	33.316	7.144	55.687	11.941
17.830	0.070	0.080	29.463	32.957	2.652	55.348	4.455
17.900	0.140	0.161	29.796	32.851	5.297	54.613	8.806
18.040	0.116	0.133	29.796	32.362	4.309	54.250	7.224
18.156	0.226	0.262	30.129	31.785	8.319	53.272	13.942
18.382	0.008	0.009	30.129	31.238	0.292	53.207	0.498
18.390	0.022	0.025	30.129	31.166	0.787	53.121	1.341
18.412	0.226	0.263	30.454	30.755	8.076	52.164	13.698
18.638	0.031	0.036	30.454	30.119	1.098	51.427	1.874
18.670	0.226	0.263	30.771	29.656	7.813	50.793	13.381
18.896	0.034	0.040	30.771	29.001	1.159	50.371	2.012
18.930	0.226	0.263	30.773	28.346	7.468	49.624	13.073
19.157	0.035	0.040	30.773	27.689	1.121	49.154	1.990
19.191	0.226	0.263	30.774	27.033	7.122	48.483	12.773
19.418	0.033	0.039	30.774	26.381	1.023	47.996	1.862
19.451	0.059	0.069	30.775	26.149	1.792	47.880	3.281
19.510	0.201	0.234	30.775	25.447	5.958	46.525	10.893
19.711	0.226	0.263	30.776	24.269	6.394	45.401	11.961
19.938	0.032	0.037	30.776	23.558	0.866	44.811	1.646
19.969	0.226	0.263	30.777	22.847	6.019	43.929	11.574
20.195	0.035	0.040	30.777	22.127	0.895	43.329	1.753
20.230	0.120	0.139	30.779	21.701	3.026	43.008	5.997
20.350	0.142	0.165	30.779	21.026	3.476	42.097	6.960
20.492	0.226	0.263	30.780	20.131	5.304	41.138	10.839
20.718	0.039	0.046	30.780	19.485	0.889	40.246	1.837
20.758	0.226	0.263	30.781	18.840	4.964	39.740	10.470
20.984	0.042	0.049	30.781	18.187	0.893	39.236	1.926
21.026	0.226	0.266	31.739	17.820	4.743	38.313	10.197
21.252	0.029	0.034	31.739	17.162	0.588	37.758	1.293
21.282	0.118	0.141	32.745	17.054	2.401	37.133	5.227
21.400	0.133	0.159	32.745	16.365	2.596	36.470	5.784
21.533	0.226	0.272	33.772	15.593	4.246	35.446	9.652
21.760	0.021	0.026	33.772	14.874	0.380	34.913	0.892
21.781	0.226	0.276	34.765	14.323	3.947	34.117	9.401
22.007	0.028	0.034	34.765	13.544	0.467	33.518	1.156
22.036	0.226	0.280	36.044	12.930	3.620	32.711	9.158
22.262	0.052	0.065	36.044	12.020	0.779	32.074	2.078
22.314	0.226	0.284	37.043	11.201	3.176	31.293	8.874
22.541	0.089	0.112	37.043	10.120	1.131	30.544	3.413

22.630	0.001	0.001	37.043	9.813	0.007	30.346	0.021
22.631	0.226	0.287	37.937	9.071	2.603	29.743	8.537
22.857	0.225	0.285	37.937	7.432	2.119	28.789	8.208
23.082	0.226	0.289	38.399	5.801	1.676	27.632	7.981
23.308	0.226	0.289	38.399	4.122	1.191	26.835	7.751
23.534	0.226	0.289	38.399	2.443	0.706	26.130	7.547
23.761	0.216	0.276	38.399	0.802	0.221	25.361	6.993

LEGENDA SIMBOLI

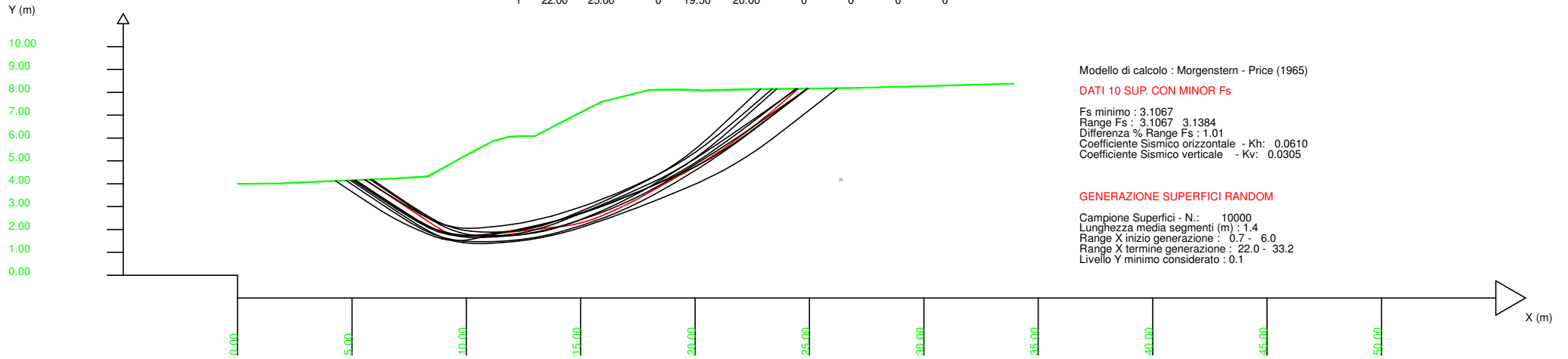
X(m) : Ascissa sinistra concio
dx(m) : Larghezza concio
dl(m) : lunghezza base concio
alpha(°) : Angolo pendenza base concio
TauStress(kPa) : Sforzo di taglio su base concio
TauF (kN/m) : Forza di taglio su base concio
TauStrength(kPa) : Resistenza al taglio su base concio
TauS (kN/m) : Forza resistente al taglio su base concio

SSAP 5.0 (2020) - Slope Stability Analysis Program
 Software by Dr.Geol. L.Borselli - www.lorenzo-borselli.eu
 SSAP/DXF generator rel. 2.0 (2020)

Data : 10/11/2020
 Localita' : San.Sebastiano - S.Maria a Monte
 Descrizione : profilatura versante (Sez.1 Tav.4) lato sud stato attuale in condizioni sismiche drenate
 [n] = N. strato o lente

Parametri Geotecnici degli strati # -----

N.	phi'	C'	Cu	Gamm	GammSat	sgci	GSI	mi	D
..	deg	kPa	kPa	kN/m3	kN/m3	MPa	..	..	..
1	22.00	25.00	0	19.50	20.00	0	0	0	0



Modello di calcolo : Morgenstern - Price (1965)

DATI 10 SUP. CON MINOR Fs

Fs minimo : 3.1067
 Range Fs : 3.1067 - 3.1384
 Differenza % Range Fs : 1.01
 Coefficiente Sismico orizzontale - Kh: 0.0610
 Coefficiente Sismico verticale - Kv: 0.0305

GENERAZIONE SUPERFICI RANDOM

Campione Superfici - N.: 10000
 Lunghezza media segmenti (m) : 1.4
 Range X inizio generazione : 0.7 - 6.0
 Range X termine generazione : 22.0 - 33.2
 Livello Y minimo considerato : 0.1

Report elaborazioni

SSAP 5.0 - Slope Stability Analysis Program (1991,2020)

WWW.SSAP.EU

Build No. 11716

BY

Dr. Geol. LORENZO BORSELLI *,**

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** Gia' Ricercatore CNR-IRPI fino a Luglio 2011

Ultima Revisione struttura tabelle del report: 12 settembre 2020

File report: D:\ssp2010prove\lavori\smontemuro\PROFILI\verifiche\attuale sismico dre.txt

Data: 10/11/2020

Localita' : San.Sebastiano - S.Maria a Monte

Descrizione: profilatura versante (Sez.1 Tav.4) lato sud stato attuale in condizioni sismiche drenate

Modello pendio: PROFILOATT.mod

----- PARAMETRI DEL MODELLO DEL PENDIO -----

___ PARAMETRI GEOMETRICI - Coordinate X Y (in m) ___

SUP T.		SUP 2		SUP 3		SUP 4	
X	Y	X	Y	X	Y	X	Y
0.00	4.00	-	-	-	-	-	-
1.83	4.01	-	-	-	-	-	-
2.26	4.04	-	-	-	-	-	-
6.87	4.23	-	-	-	-	-	-
8.17	4.31	-	-	-	-	-	-
8.34	4.33	-	-	-	-	-	-
9.92	5.21	-	-	-	-	-	-
10.13	5.32	-	-	-	-	-	-
11.20	5.88	-	-	-	-	-	-
11.89	6.06	-	-	-	-	-	-
12.46	6.08	-	-	-	-	-	-
12.76	6.08	-	-	-	-	-	-
13.00	6.08	-	-	-	-	-	-
14.00	6.61	-	-	-	-	-	-
15.91	7.59	-	-	-	-	-	-
17.83	8.06	-	-	-	-	-	-
18.04	8.10	-	-	-	-	-	-
18.39	8.11	-	-	-	-	-	-
19.51	8.12	-	-	-	-	-	-
20.35	8.08	-	-	-	-	-	-
21.40	8.11	-	-	-	-	-	-
22.63	8.14	-	-	-	-	-	-
24.44	8.16	-	-	-	-	-	-

26.78	8.19	-	-	-	-	-	-
27.81	8.21	-	-	-	-	-	-
33.92	8.38	-	-	-	-	-	-

ASSENZA DI FALDA

----- PARAMETRI GEOMECCANICI -----

	fi`	C`	Cu	Gamm	Gamm_sat	STR_IDX	sgci	GSI	mi	D
STRATO 1	22.00	25.00	0.00	19.50	20.00	2.277	0.00	0.00	0.00	0.00

LEGENDA: fi` _____ Angolo di attrito interno efficace(in gradi)
 C` _____ Coesione efficace (in Kpa)
 Cu _____ Resistenza al taglio Non drenata (in Kpa)
 Gamm _____ Peso di volume terreno fuori falda (in KN/m^3)
 Gamm_sat _____ Peso di volume terreno immerso (in KN/m^3)
 STR_IDX _____ Indice di resistenza (usato in solo in 'SNIFF SEARCH) (adimensionale)
 ---- SOLO Per AMMASSI ROCCIOSI FRATTURATI - Parametri Criterio di Rottura di Hoek (2002)-
 sigci _____ Resistenza Compressione Uniassiale Roccia Intatta (in MPa)
 GSI _____ Geological Strenght Index ammasso(adimensionale)
 mi _____ Indice litologico ammasso(adimensionale)
 D _____ Fattore di disturbo ammasso(adimensionale)

Fattore di riduzione NTC2018: gammaPHI=1.25 e gammaC=1.25 - DISATTIVATO (solo per ROCCE)
 Uso CRITERIO DI ROTTURA Hoek et al.(2002,2006) - non-lineare - Generalizzato, secondo Lei et al.(2016)

----- INFORMAZIONI GENERAZIONE SUPERFICI RANDOM -----

*** PARAMETRI PER LA GENERAZIONE DELLE SUPERFICI
 METODO DI RICERCA: CONVEX RANDOM - Chen (1992)
 FILTRAGGIO SUPERFICI : ATTIVATO
 COORDINATE X1,X2,Y OSTACOLO : 0.00 0.00 0.00
 LUNGHEZZA MEDIA SEGMENTI (m): 1.4 (+/-) 50%
 INTERVALLO ASCISSE RANDOM STARTING POINT (Xmin .. Xmax): 0.68 6.00
 LIVELLO MINIMO CONSIDERATO (Ymin): 0.06
 INTERVALLO ASCISSE AMMESSO PER LA TERMINAZIONE (Xmin .. Xmax): 22.00 33.24

*** TOTALE SUPERFICI GENERATE : 10000

----- INFORMAZIONI PARAMETRI DI CALCOLO -----

METODO DI CALCOLO : MORGENSTERN - PRICE (Morgenstern & Price, 1965)
 METODO DI ESPLORAZIONE CAMPO VALORI (lambda0,Fs0) ADOTTATO : A (rapido)
 COEFFICIENTE SISMICO UTILIZZATO Kh : 0.0610
 COEFFICIENTE SISMICO UTILIZZATO Kv (assunto Positivo): 0.0305
 COEFFICIENTE c=Kv/Kh UTILIZZATO : 0.5000
 FORZA ORIZZONTALE ADDIZIONALE IN TESTA (kN/m): 0.00
 FORZA ORIZZONTALE ADDIZIONALE ALLA BASE (kN/m): 0.00

N.B. Le forze orizzontali addizionali in testa e alla base sono poste uguali a 0 durante le tutte le verifiche globali.
 I valori >0 impostati dall'utente sono utilizzati solo in caso di verifica singola

----- RISULTATO FINALE ELABORAZIONI -----

* DATI RELATIVI ALLE 10 SUPERFICI GENERATE CON MINOR Fs *

Fattore di sicurezza (FS) 3.1067 - Min. - X Y Lambda= 0.3070

5.58	4.18
6.38	3.65
6.79	3.37
7.09	3.18
7.35	3.00
7.59	2.85
7.84	2.68
8.09	2.52
8.35	2.34
8.64	2.15
8.87	2.01
9.08	1.91
9.26	1.83
9.48	1.77
9.66	1.73
9.86	1.72
10.09	1.72
10.38	1.74
10.65	1.76
10.90	1.78
11.14	1.80
11.38	1.82
11.61	1.85
11.85	1.87
12.08	1.90
12.32	1.92
12.56	1.95
12.80	1.98
13.04	2.01
13.27	2.03
13.51	2.06
13.76	2.09
14.01	2.12
14.27	2.15
14.50	2.18
14.72	2.22
14.93	2.27
15.16	2.33
15.38	2.40
15.61	2.48
15.84	2.57
16.11	2.68
16.36	2.79
16.59	2.90
16.83	3.00
17.06	3.12
17.29	3.23
17.52	3.36
17.75	3.48
18.00	3.62
18.24	3.76

18.48	3.89
18.72	4.02
18.96	4.16
19.19	4.29
19.43	4.42
19.68	4.56
19.92	4.70
20.16	4.83
20.39	4.97
20.61	5.11
20.85	5.27
21.08	5.42
21.31	5.58
21.55	5.75
21.80	5.93
22.04	6.11
22.28	6.29
22.51	6.47
22.74	6.66
23.00	6.87
23.30	7.12
23.71	7.47
24.52	8.16

Fattore di sicurezza (FS) 3.1219 - N.2 -- X Y Lambda= 0.2908

5.16	4.16
7.04	2.92
7.90	2.39
8.45	2.09
8.89	1.90
9.34	1.76
9.73	1.69
10.17	1.65
10.67	1.65
11.32	1.68
11.87	1.72
12.36	1.78
12.83	1.85
13.30	1.94
13.76	2.05
14.24	2.18
14.74	2.33
15.31	2.52
15.82	2.71
16.31	2.90
16.78	3.09
17.26	3.32
17.72	3.54
18.20	3.80
18.70	4.07
19.23	4.38
19.74	4.69

20.24	4.99
20.73	5.30
21.22	5.61
21.76	5.97
22.37	6.38
23.23	6.98
24.92	8.17

Fattore di sicurezza (FS) 3.1228 - N.3 -- X Y Lambda= 0.2854

4.74	4.14
6.65	2.87
7.53	2.32
8.10	2.00
8.55	1.79
9.01	1.64
9.42	1.55
9.87	1.49
10.38	1.47
11.05	1.47
11.60	1.49
12.10	1.53
12.57	1.58
13.06	1.66
13.52	1.75
14.01	1.87
14.52	2.02
15.11	2.20
15.64	2.38
16.13	2.56
16.61	2.75
17.10	2.97
17.57	3.20
18.06	3.45
18.57	3.73
19.13	4.05
19.65	4.37
20.16	4.68
20.64	5.00
21.14	5.33
21.69	5.71
22.30	6.16
23.19	6.83
24.93	8.17

Fattore di sicurezza (FS) 3.1252 - N.4 -- X Y Lambda= 0.2953

5.03	4.15
6.95	2.90
7.81	2.37
8.36	2.07
8.79	1.90
9.24	1.78

9.61	1.72
10.04	1.71
10.53	1.74
11.19	1.82
11.75	1.90
12.26	1.99
12.74	2.09
13.22	2.20
13.69	2.32
14.17	2.46
14.67	2.61
15.21	2.80
15.72	2.98
16.22	3.16
16.71	3.34
17.20	3.53
17.69	3.72
18.19	3.93
18.71	4.15
19.26	4.39
19.75	4.62
20.23	4.87
20.69	5.12
21.17	5.41
21.69	5.75
22.28	6.17
23.15	6.82
24.90	8.17

Fattore di sicurezza (FS)	3.1275	- N.5	--	X	Y	Lambda=	0.2893
				5.13	4.16		
				6.87	3.01		
				7.67	2.51		
				8.19	2.22		
				8.61	2.03		
				9.03	1.89		
				9.40	1.80		
				9.83	1.75		
				10.30	1.72		
				10.92	1.72		
				11.42	1.74		
				11.87	1.77		
				12.28	1.83		
				12.72	1.92		
				13.13	2.02		
				13.56	2.15		
				14.01	2.31		
				14.53	2.51		
				15.03	2.71		
				15.50	2.90		
				15.96	3.10		
				16.42	3.29		

16.88	3.49
17.34	3.70
17.83	3.92
18.35	4.16
18.80	4.39
19.23	4.63
19.65	4.89
20.09	5.19
20.56	5.54
21.11	5.99
21.91	6.68
23.56	8.15

Fattore di sicurezza (FS) 3.1337 - N.6 -- X Y Lambda= 0.3014

5.56	4.18
7.26	3.11
8.03	2.66
8.53	2.40
8.92	2.24
9.33	2.13
9.67	2.08
10.07	2.05
10.51	2.07
11.09	2.11
11.59	2.17
12.04	2.23
12.47	2.30
12.90	2.38
13.32	2.48
13.75	2.59
14.20	2.73
14.69	2.88
15.15	3.04
15.60	3.20
16.03	3.36
16.46	3.53
16.89	3.71
17.34	3.91
17.80	4.12
18.31	4.37
18.75	4.60
19.18	4.84
19.59	5.09
20.02	5.38
20.48	5.72
21.01	6.14
21.79	6.79
23.37	8.15

Fattore di sicurezza (FS) 3.1341 - N.7 -- X Y Lambda= 0.2862

4.94	4.15
------	------

6.97	2.78
7.90	2.19
8.49	1.86
8.96	1.65
9.44	1.50
9.85	1.42
10.32	1.38
10.86	1.39
11.56	1.43
12.15	1.48
12.69	1.55
13.19	1.63
13.70	1.73
14.19	1.85
14.70	1.99
15.23	2.15
15.82	2.36
16.37	2.55
16.91	2.75
17.44	2.94
17.97	3.15
18.49	3.36
19.03	3.58
19.59	3.81
20.18	4.06
20.70	4.31
21.21	4.57
21.70	4.84
22.21	5.16
22.76	5.53
23.40	5.99
24.32	6.69
26.21	8.18

Fattore di sicurezza (FS)	3.1353	- N.8	--	X	Y	Lambda=	0.2972
				5.88	4.19		
				7.49	3.11		
				8.22	2.64		
				8.70	2.37		
				9.09	2.19		
				9.48	2.06		
				9.82	1.97		
				10.21	1.92		
				10.64	1.89		
				11.22	1.89		
				11.68	1.90		
				12.09	1.93		
				12.47	1.98		
				12.87	2.06		
				13.24	2.15		
				13.64	2.27		
				14.06	2.42		

14.55	2.61
15.00	2.80
15.44	2.98
15.86	3.16
16.28	3.35
16.69	3.55
17.12	3.75
17.57	3.97
18.05	4.22
18.47	4.45
18.87	4.69
19.25	4.95
19.66	5.25
20.10	5.60
20.60	6.03
21.34	6.71
22.85	8.14

Fattore di sicurezza (FS) 3.1381 - N.9 -- X Y Lambda= 0.2955

5.78	4.19
7.55	3.00
8.37	2.48
8.89	2.19
9.31	2.00
9.74	1.86
10.11	1.78
10.53	1.73
11.01	1.71
11.64	1.72
12.15	1.75
12.61	1.79
13.03	1.86
13.48	1.95
13.89	2.06
14.33	2.19
14.81	2.36
15.36	2.58
15.85	2.78
16.31	2.99
16.76	3.20
17.22	3.44
17.66	3.67
18.11	3.93
18.58	4.21
19.08	4.51
19.56	4.82
20.03	5.12
20.49	5.42
20.96	5.72
21.47	6.07
22.05	6.47
22.87	7.04

24.46 8.16

Fattore di sicurezza (FS) 3.1384 - N.10 -- X Y Lambda= 0.2878

4.28	4.12
5.38	3.39
5.93	3.03
6.31	2.80
6.64	2.60
6.95	2.43
7.26	2.28
7.58	2.12
7.92	1.97
8.32	1.80
8.64	1.68
8.92	1.59
9.17	1.54
9.46	1.51
9.71	1.51
9.98	1.53
10.28	1.58
10.66	1.66
11.01	1.74
11.35	1.81
11.67	1.88
11.99	1.94
12.30	2.01
12.62	2.08
12.94	2.15
13.27	2.22
13.58	2.29
13.89	2.37
14.19	2.45
14.50	2.53
14.80	2.63
15.11	2.72
15.43	2.83
15.76	2.95
16.08	3.07
16.40	3.19
16.70	3.31
17.02	3.43
17.32	3.56
17.64	3.69
17.96	3.84
18.30	3.99
18.62	4.14
18.92	4.29
19.22	4.45
19.53	4.63
19.83	4.81
20.13	5.00
20.44	5.21

20.78	5.44
21.11	5.67
21.42	5.90
21.73	6.12
22.05	6.35
22.40	6.61
22.78	6.91
23.33	7.33
24.41	8.16

----- ANALISI DEFICIT DI RESISTENZA -----

DATI RELATIVI ALLE 10 SUPERFICIE GENERATE CON MINOR Fs *

Analisi Deficit in riferimento a FS(progetto) = 1.200

Sup N.	FS	FTR(kN/m)	FTA(kN/m)	Bilancio(kN/m)	ESITO
1	3.107	1065.3	342.9	653.8	Surplus
2	3.122	1086.7	348.1	669.0	Surplus
3	3.123	1143.7	366.2	704.2	Surplus
4	3.125	1067.1	341.5	657.4	Surplus
5	3.128	1017.9	325.5	627.3	Surplus
6	3.134	939.6	299.8	579.8	Surplus
7	3.134	1217.9	388.6	751.6	Surplus
8	3.135	944.9	301.4	583.3	Surplus
9	3.138	1040.8	331.7	642.8	Surplus
10	3.138	1085.4	345.9	670.4	Surplus

Esito analisi: SURPLUS di RESISTENZA!

Valore minimo di SURPLUS di RESISTENZA (kN/m): 579.8

Note: FTR --> Forza totale Resistente lungo la superficie di scivolamento

FTA --> Forza totale Agente lungo la superficie di scivolamento

IMPORTANTE! : Il Deficit o il Surplus di resistenza viene espresso in kN per metro di LARGHEZZA rispetto al fronte della scarpata

TABELLA PARAMETRI CONCI DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	alpha (°)	W (kN/m)	ru (-)	U (kPa)	phi' (°)	(c',Cu) (kPa)
5.578	0.229	-33.50	0.37	0.00	0.00	22.00	25.00
5.807	0.229	-33.50	1.11	0.00	0.00	22.00	25.00
6.035	0.229	-33.50	1.85	0.00	0.00	22.00	25.00
6.264	0.111	-33.50	1.16	0.00	0.00	22.00	25.00
6.375	0.229	-33.49	2.95	0.00	0.00	22.00	25.00
6.604	0.187	-33.49	2.95	0.00	0.00	22.00	25.00
6.791	0.079	-33.49	1.41	0.00	0.00	22.00	25.00
6.870	0.217	-33.49	4.29	0.00	0.00	22.00	25.00

7.087	0.229	-33.49	5.28	0.00	0.00	22.00	25.00
7.315	0.039	-33.49	0.97	0.00	0.00	22.00	25.00
7.354	0.229	-33.49	6.16	0.00	0.00	22.00	25.00
7.583	0.007	-33.49	0.21	0.00	0.00	22.00	25.00
7.590	0.229	-33.49	6.95	0.00	0.00	22.00	25.00
7.819	0.016	-33.49	0.52	0.00	0.00	22.00	25.00
7.835	0.229	-33.49	7.76	0.00	0.00	22.00	25.00
8.064	0.023	-33.49	0.82	0.00	0.00	22.00	25.00
8.087	0.083	-33.49	3.04	0.00	0.00	22.00	25.00
8.170	0.170	-33.49	6.54	0.00	0.00	22.00	25.00
8.340	0.014	-33.49	0.55	0.00	0.00	22.00	25.00
8.354	0.229	-33.49	9.82	0.00	0.00	22.00	25.00
8.583	0.057	-33.49	2.64	0.00	0.00	22.00	25.00
8.639	0.229	-31.00	11.39	0.00	0.00	22.00	25.00
8.868	0.001	-31.00	0.03	0.00	0.00	22.00	25.00
8.869	0.208	-27.24	11.38	0.00	0.00	22.00	25.00
9.077	0.185	-22.02	10.85	0.00	0.00	22.00	25.00
9.261	0.215	-16.47	13.39	0.00	0.00	22.00	25.00
9.476	0.181	-10.63	11.86	0.00	0.00	22.00	25.00
9.657	0.206	-4.33	14.03	0.00	0.00	22.00	25.00
9.863	0.057	0.66	3.99	0.00	0.00	22.00	25.00
9.920	0.170	0.66	12.06	0.00	0.00	22.00	25.00
10.090	0.040	4.02	2.90	0.00	0.00	22.00	25.00
10.130	0.229	4.02	16.77	0.00	0.00	22.00	25.00
10.359	0.026	4.02	1.90	0.00	0.00	22.00	25.00
10.384	0.229	4.29	17.30	0.00	0.00	22.00	25.00
10.613	0.039	4.29	2.97	0.00	0.00	22.00	25.00
10.652	0.229	4.60	17.84	0.00	0.00	22.00	25.00
10.881	0.021	4.60	1.65	0.00	0.00	22.00	25.00
10.901	0.229	4.93	18.35	0.00	0.00	22.00	25.00
11.130	0.013	4.93	1.03	0.00	0.00	22.00	25.00
11.143	0.057	5.27	4.66	0.00	0.00	22.00	25.00
11.200	0.178	5.27	14.63	0.00	0.00	22.00	25.00
11.378	0.229	5.58	18.94	0.00	0.00	22.00	25.00
11.607	0.005	5.58	0.45	0.00	0.00	22.00	25.00
11.612	0.229	5.90	19.11	0.00	0.00	22.00	25.00
11.841	0.006	5.90	0.51	0.00	0.00	22.00	25.00
11.847	0.043	6.21	3.61	0.00	0.00	22.00	25.00
11.890	0.193	6.21	16.21	0.00	0.00	22.00	25.00
12.083	0.229	6.51	19.12	0.00	0.00	22.00	25.00
12.312	0.010	6.51	0.81	0.00	0.00	22.00	25.00
12.322	0.138	6.51	11.52	0.00	0.00	22.00	25.00
12.460	0.101	6.51	8.36	0.00	0.00	22.00	25.00
12.561	0.199	6.51	16.49	0.00	0.00	22.00	25.00
12.760	0.038	6.51	3.17	0.00	0.00	22.00	25.00
12.798	0.202	6.51	16.56	0.00	0.00	22.00	25.00
13.000	0.037	6.51	3.00	0.00	0.00	22.00	25.00
13.037	0.229	6.52	19.03	0.00	0.00	22.00	25.00
13.265	0.007	6.52	0.63	0.00	0.00	22.00	25.00
13.273	0.229	6.52	19.49	0.00	0.00	22.00	25.00
13.502	0.012	6.52	1.04	0.00	0.00	22.00	25.00
13.514	0.229	6.52	19.95	0.00	0.00	22.00	25.00
13.742	0.014	6.52	1.27	0.00	0.00	22.00	25.00

13.757	0.229	6.52	20.41	0.00	0.00	22.00	25.00
13.986	0.014	6.52	1.31	0.00	0.00	22.00	25.00
14.000	0.007	6.52	0.63	0.00	0.00	22.00	25.00
14.007	0.229	6.52	20.88	0.00	0.00	22.00	25.00
14.236	0.029	6.52	2.71	0.00	0.00	22.00	25.00
14.265	0.229	8.33	21.34	0.00	0.00	22.00	25.00
14.494	0.002	8.33	0.22	0.00	0.00	22.00	25.00
14.496	0.224	10.44	21.21	0.00	0.00	22.00	25.00
14.720	0.214	12.72	20.62	0.00	0.00	22.00	25.00
14.934	0.229	14.92	22.28	0.00	0.00	22.00	25.00
15.163	0.216	17.12	21.27	0.00	0.00	22.00	25.00
15.379	0.227	19.27	22.49	0.00	0.00	22.00	25.00
15.605	0.229	21.16	22.85	0.00	0.00	22.00	25.00
15.834	0.008	21.16	0.85	0.00	0.00	22.00	25.00
15.843	0.067	22.72	6.76	0.00	0.00	22.00	25.00
15.910	0.199	22.72	19.94	0.00	0.00	22.00	25.00
16.109	0.229	23.49	22.69	0.00	0.00	22.00	25.00
16.338	0.019	23.49	1.83	0.00	0.00	22.00	25.00
16.357	0.229	24.33	22.47	0.00	0.00	22.00	25.00
16.586	0.009	24.33	0.89	0.00	0.00	22.00	25.00
16.595	0.229	25.20	22.23	0.00	0.00	22.00	25.00
16.823	0.003	25.20	0.26	0.00	0.00	22.00	25.00
16.826	0.229	26.08	21.98	0.00	0.00	22.00	25.00
17.055	0.005	26.08	0.45	0.00	0.00	22.00	25.00
17.060	0.229	26.91	21.70	0.00	0.00	22.00	25.00
17.288	0.229	27.73	21.43	0.00	0.00	22.00	25.00
17.517	0.003	27.73	0.27	0.00	0.00	22.00	25.00
17.520	0.229	28.52	21.12	0.00	0.00	22.00	25.00
17.749	0.006	28.52	0.55	0.00	0.00	22.00	25.00
17.755	0.075	29.25	6.89	0.00	0.00	22.00	25.00
17.830	0.169	29.25	15.26	0.00	0.00	22.00	25.00
17.999	0.041	29.25	3.71	0.00	0.00	22.00	25.00
18.040	0.201	29.25	17.77	0.00	0.00	22.00	25.00
18.241	0.149	29.25	12.92	0.00	0.00	22.00	25.00
18.390	0.090	29.25	7.69	0.00	0.00	22.00	25.00
18.480	0.229	29.25	19.11	0.00	0.00	22.00	25.00
18.709	0.010	29.25	0.83	0.00	0.00	22.00	25.00
18.719	0.229	29.25	18.51	0.00	0.00	22.00	25.00
18.948	0.007	29.25	0.59	0.00	0.00	22.00	25.00
18.955	0.229	29.25	17.91	0.00	0.00	22.00	25.00
19.184	0.010	29.25	0.79	0.00	0.00	22.00	25.00
19.194	0.229	29.25	17.30	0.00	0.00	22.00	25.00
19.423	0.011	29.25	0.80	0.00	0.00	22.00	25.00
19.434	0.076	29.25	5.63	0.00	0.00	22.00	25.00
19.510	0.166	29.25	12.05	0.00	0.00	22.00	25.00
19.676	0.229	29.26	16.01	0.00	0.00	22.00	25.00
19.905	0.016	29.26	1.11	0.00	0.00	22.00	25.00
19.921	0.229	30.13	15.31	0.00	0.00	22.00	25.00
20.150	0.005	30.13	0.36	0.00	0.00	22.00	25.00
20.156	0.194	31.04	12.47	0.00	0.00	22.00	25.00
20.350	0.037	31.04	2.30	0.00	0.00	22.00	25.00
20.387	0.228	31.97	13.91	0.00	0.00	22.00	25.00
20.614	0.229	32.88	13.34	0.00	0.00	22.00	25.00

20.843	0.005	32.88	0.26	0.00	0.00	22.00	25.00
20.848	0.229	33.77	12.67	0.00	0.00	22.00	25.00
21.076	0.000	33.77	0.00	0.00	0.00	22.00	25.00
21.077	0.229	34.65	11.98	0.00	0.00	22.00	25.00
21.305	0.004	34.65	0.22	0.00	0.00	22.00	25.00
21.310	0.090	35.48	4.53	0.00	0.00	22.00	25.00
21.400	0.148	35.48	7.17	0.00	0.00	22.00	25.00
21.548	0.229	36.23	10.50	0.00	0.00	22.00	25.00
21.777	0.022	36.23	0.97	0.00	0.00	22.00	25.00
21.799	0.229	36.77	9.67	0.00	0.00	22.00	25.00
22.027	0.012	36.77	0.49	0.00	0.00	22.00	25.00
22.039	0.229	37.33	8.86	0.00	0.00	22.00	25.00
22.268	0.007	37.33	0.27	0.00	0.00	22.00	25.00
22.275	0.229	37.90	8.06	0.00	0.00	22.00	25.00
22.504	0.004	37.90	0.14	0.00	0.00	22.00	25.00
22.508	0.122	38.47	3.96	0.00	0.00	22.00	25.00
22.630	0.113	38.47	3.46	0.00	0.00	22.00	25.00
22.743	0.229	39.20	6.38	0.00	0.00	22.00	25.00
22.972	0.032	39.20	0.82	0.00	0.00	22.00	25.00
23.003	0.229	39.77	5.41	0.00	0.00	22.00	25.00
23.232	0.064	39.77	1.35	0.00	0.00	22.00	25.00
23.296	0.229	40.30	4.30	0.00	0.00	22.00	25.00
23.524	0.185	40.30	2.84	0.00	0.00	22.00	25.00
23.710	0.229	40.58	2.70	0.00	0.00	22.00	25.00
23.938	0.229	40.58	1.81	0.00	0.00	22.00	25.00
24.167	0.229	40.58	0.93	0.00	0.00	22.00	25.00
24.396	0.044	40.58	0.08	0.00	0.00	22.00	25.00
24.440	0.080	40.58	0.05	0.00	0.00	22.00	25.00

 LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
 dx(m) : Larghezza concio
 alpha(°) : Angolo pendenza base concio
 W(kN/m) : Forza peso concio
 ru(-) : Coefficiente locale pressione interstiziale
 U(kPa) : Pressione totale dei pori base concio
 phi'(°) : Angolo di attrito efficace base concio
 c'/Cu (kPa) : Coesione efficace o Resistenza al taglio in condizioni non drenate

TABELLA DIAGRAMMA DELLE FORZE DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	ht (m)	yt (m)	yt' (--)	E(x) (kN/m)	T(x) (kN/m)	E' (kN)	rho(x) (--)	FS_qFEM (--)	FS_srmFEM (--)
5.578	0.000	4.177	-0.521	0.0000000000E+000	0.0000000000E+000	0.0000000000E+000	0.104	19.893	20.384
5.807	0.040	4.066	-0.521	3.9124459740E-001	8.0587940226E-004	3.9695261310E+000	0.104	19.893	20.384
6.035	0.064	3.938	-0.517	1.8161271199E+000	3.1602336681E-002	7.5475513375E+000	0.104	9.561	9.683
6.264	0.107	3.829	-0.467	3.8443803674E+000	1.4449979172E-001	9.7544757014E+000	0.104	7.007	7.019
6.375	0.130	3.780	-0.458	4.9742974373E+000	2.4436688238E-001	1.1602747960E+001	0.104	6.307	6.279
6.604	0.176	3.674	-0.473	8.2972118314E+000	6.1732284170E-001	1.8638196793E+001	0.104	5.383	5.270

6.791	0.209	3.583	-0.463	1.2400607773E+001	1.1022830810E+000	1.9614882106E+001	0.130	4.965	4.777
6.870	0.229	3.551	-0.446	1.3879048568E+001	1.2768414621E+000	2.0485365133E+001	0.140	4.842	4.634
7.087	0.273	3.451	-0.451	1.9428451545E+001	1.9575631691E+000	2.8058450572E+001	0.176	4.632	4.343
7.315	0.323	3.350	-0.440	2.6436588316E+001	2.8359959468E+000	3.1014100546E+001	0.213	4.583	4.187
7.354	0.332	3.334	-0.394	2.7638093841E+001	2.9885783756E+000	3.1416207999E+001	0.218	4.588	4.172
7.583	0.394	3.244	-0.390	3.5282500430E+001	3.9886822673E+000	3.2320054628E+001	0.249	4.722	4.156
7.590	0.396	3.242	-0.349	3.5522699377E+001	4.0209479163E+000	3.2406592136E+001	0.249	4.729	4.157
7.819	0.468	3.162	-0.348	4.3795570790E+001	5.1726275407E+000	3.7066658435E+001	0.279	5.062	4.247
7.835	0.473	3.156	-0.312	4.4400939941E+001	5.2599385299E+000	3.7203547364E+001	0.281	5.094	4.257
8.064	0.554	3.085	-0.305	5.3144505181E+001	6.5675752868E+000	3.4324054130E+001	0.310	5.658	4.431
8.087	0.563	3.080	-0.259	5.3919419786E+001	6.6877474368E+000	3.4950979221E+001	0.312	5.721	4.450
8.170	0.596	3.058	-0.252	5.7131326132E+001	7.2123485438E+000	3.8815954443E+001	0.323	5.987	4.537
8.340	0.667	3.016	-0.246	6.3788244299E+001	8.3397945853E+000	4.2053678513E+001	0.344	6.625	4.735
8.354	0.673	3.013	-0.221	6.4371952184E+001	8.4457035631E+000	4.2388505739E+001	0.345	6.683	4.754
8.583	0.774	2.962	-0.212	7.4446849069E+001	1.0365525105E+001	4.3805696850E+001	0.370	7.784	5.098
8.639	0.801	2.952	-0.158	7.6930399667E+001	1.0876349629E+001	4.4678261303E+001	0.377	8.075	5.190
8.868	0.904	2.917	-0.152	8.8009224384E+001	1.3403939574E+001	4.8398654961E+001	0.413	9.100	5.594
8.869	0.904	2.917	-0.074	8.8040536734E+001	1.3411661839E+001	4.8410769981E+001	0.413	9.101	5.595
9.077	0.996	2.902	-0.043	9.8925182334E+001	1.6345161923E+001	5.2928305252E+001	0.458	9.060	5.936
9.261	1.069	2.900	0.039	1.0880160401E+002	1.9296277098E+001	4.9421034428E+001	0.503	8.390	6.182
9.476	1.149	2.917	0.111	1.1840561209E+002	2.2589854424E+001	3.9372908623E+001	0.550	7.265	6.277
9.657	1.210	2.944	0.168	1.2471341284E+002	2.5074174438E+001	3.1340611581E+001	0.583	6.434	6.207
9.863	1.264	2.982	0.187	1.3033799248E+002	2.7530253629E+001	2.1728934490E+001	0.615	5.758	6.046
9.920	1.274	2.993	0.221	1.3149086792E+002	2.8084500103E+001	1.9648717957E+001	0.621	5.619	5.992
10.090	1.311	3.033	0.233	1.3456556041E+002	2.9675828340E+001	1.3969206013E+001	0.641	5.285	5.801
10.130	1.318	3.042	0.241	1.3508753104E+002	2.9981070366E+001	1.2718206318E+001	0.645	5.232	5.753
10.359	1.357	3.097	0.240	1.3764235328E+002	3.1543705574E+001	9.573048719E+000	0.662	5.006	5.494
10.384	1.361	3.103	0.244	1.37882544330E+002	3.1696539892E+001	9.2973179474E+000	0.663	4.987	5.467
10.613	1.400	3.159	0.245	1.3980991287E+002	3.2979711255E+001	7.6694645645E+000	0.675	4.856	5.229
10.652	1.407	3.169	0.261	1.4010198277E+002	3.3177514251E+001	7.5571597575E+000	0.676	4.838	5.192
10.881	1.449	3.229	0.263	1.4185191218E+002	3.4358735498E+001	6.8875556667E+000	0.686	4.736	4.965
10.901	1.452	3.234	0.243	1.4199381780E+002	3.4453834039E+001	6.8100642119E+000	0.687	4.728	4.947
11.130	1.488	3.290	0.241	1.4353117943E+002	3.5460985648E+001	5.5285676355E+000	0.693	4.643	4.759
11.143	1.490	3.292	0.220	1.4360056621E+002	3.5505355644E+001	5.6156467930E+000	0.693	4.639	4.751
11.200	1.497	3.305	0.211	1.4396094310E+002	3.5727145546E+001	6.2218570111E+000	0.694	4.619	4.711
11.378	1.517	3.342	0.195	1.4502265583E+002	3.6350419769E+001	5.8139557574E+000	0.701	4.561	4.601
11.607	1.538	3.384	0.185	1.4630913279E+002	3.7052569677E+001	5.0624232263E+000	0.708	4.491	4.483
11.612	1.538	3.385	0.157	1.4633645207E+002	3.7066430413E+001	5.0524447714E+000	0.708	4.489	4.481
11.841	1.550	3.421	0.157	1.4752413751E+002	3.7644720174E+001	4.6203775494E+000	0.713	4.424	4.390
11.847	1.550	3.422	0.129	1.4755200012E+002	3.7657224795E+001	4.6210974769E+000	0.713	4.422	4.388
11.890	1.551	3.428	0.131	1.4775527031E+002	3.7746990100E+001	4.7786982833E+000	0.714	4.411	4.375
12.083	1.556	3.453	0.128	1.4871756265E+002	3.8161869184E+001	4.9423178975E+000	0.721	4.359	4.313
12.312	1.558	3.482	0.125	1.4983739793E+002	3.8627672943E+001	3.9909925465E+000	0.730	4.302	4.243
12.322	1.558	3.483	0.118	1.4987595912E+002	3.8643262342E+001	3.9763233541E+000	0.731	4.300	4.241
12.460	1.559	3.499	0.119	1.5047288722E+002	3.8901640021E+001	4.2479689889E+000	0.736	4.272	4.200
12.561	1.559	3.511	0.140	1.5089570825E+002	3.9089055956E+001	4.3447722253E+000	0.740	4.253	4.169
12.760	1.567	3.541	0.150	1.5181912809E+002	3.9545756417E+001	4.1793089743E+000	0.749	4.214	4.091
12.798	1.568	3.547	0.195	1.5197642823E+002	3.9628704998E+001	4.2199261981E+000	0.751	4.208	4.077
13.000	1.586	3.588	0.205	1.5296242028E+002	4.0223022959E+001	4.3710965184E+000	0.763	4.173	3.972
13.037	1.589	3.595	0.227	1.5311873970E+002	4.0325596011E+001	4.2689323355E+000	0.763	4.168	3.954
13.265	1.616	3.648	0.230	1.5408424024E+002	4.1026249137E+001	3.8289142431E+000	0.763	4.138	3.830
13.273	1.617	3.650	0.266	1.5411263412E+002	4.1048033080E+001	3.8289873556E+000	0.763	4.137	3.826
13.502	1.652	3.711	0.266	1.5507866561E+002	4.1829153162E+001	3.5652366463E+000	0.765	4.096	3.690

13.514	1.653	3.714	0.260	1.5512129452E+002	4.1866096960E+001	3.5262134383E+000	0.765	4.094	3.683
13.742	1.687	3.774	0.259	1.5590927214E+002	4.2588577853E+001	2.8707636109E+000	0.766	4.042	3.558
13.757	1.689	3.777	0.258	1.5595012784E+002	4.2628164174E+001	2.8289210803E+000	0.766	4.039	3.551
13.986	1.722	3.836	0.257	1.5657661405E+002	4.3296445472E+001	2.1048725421E+000	0.767	3.965	3.431
14.000	1.723	3.840	0.229	1.5660652288E+002	4.3330985116E+001	1.8885365264E+000	0.767	3.960	3.424
14.007	1.724	3.841	0.262	1.5661904142E+002	4.3348430075E+001	1.7980736070E+000	0.767	3.957	3.421
14.236	1.758	3.901	0.263	1.5698468117E+002	4.3931199544E+001	5.9001461578E-001	0.766	3.836	3.298
14.265	1.763	3.909	0.287	1.5699821539E+002	4.3995944768E+001	3.9641415978E-001	0.766	3.816	3.282
14.494	1.795	3.975	0.289	1.5697489104E+002	4.4489073454E+001	-1.5960652253E+000	0.766	3.638	3.146
14.496	1.796	3.976	0.340	1.5697116319E+002	4.4492879473E+001	-1.6242376718E+000	0.766	3.636	3.145
14.720	1.831	4.052	0.414	1.5632583864E+002	4.4825547506E+001	-5.8428193809E+000	0.765	3.407	2.992
14.934	1.887	4.157	0.513	1.5446701685E+002	4.4885515634E+001	-1.0540098934E+001	0.762	3.113	2.802
15.163	1.948	4.279	0.468	1.5160150860E+002	4.4655661835E+001	-1.4616816585E+001	0.758	2.822	2.611
15.379	1.968	4.365	0.407	1.4801664700E+002	4.4014064888E+001	-1.7649281358E+001	0.748	2.613	2.471
15.605	1.983	4.459	0.426	1.4376531946E+002	4.3049455831E+001	-1.8703086743E+001	0.735	2.457	2.364
15.834	1.994	4.560	0.438	1.3950026594E+002	4.1919002909E+001	-1.7598941483E+001	0.719	2.359	2.296
15.843	1.995	4.563	0.454	1.3935216002E+002	4.1878193921E+001	-1.7635196620E+001	0.719	2.356	2.294
15.910	1.997	4.594	0.376	1.3812294808E+002	4.1528310628E+001	-1.8827513636E+001	0.714	2.335	2.280
16.109	1.983	4.664	0.354	1.3401752737E+002	4.0289932943E+001	-2.0115017894E+001	0.703	2.281	2.245
16.338	1.966	4.746	0.355	1.2953961273E+002	3.8883707554E+001	-1.7177503443E+001	0.689	2.234	2.216
16.357	1.964	4.751	0.317	1.2922407908E+002	3.8782107574E+001	-1.7330650770E+001	0.688	2.232	2.215
16.586	1.933	4.824	0.318	1.2427978243E+002	3.7137735628E+001	-2.1877132944E+001	0.671	2.193	2.193
16.595	1.932	4.827	0.366	1.2408049624E+002	3.7069745069E+001	-2.2043144275E+001	0.671	2.191	2.192
16.823	1.908	4.911	0.367	1.1814407826E+002	3.5014680273E+001	-2.4314608414E+001	0.647	2.154	2.173
16.826	1.908	4.912	0.393	1.1807895427E+002	3.4991886074E+001	-2.4342033778E+001	0.647	2.153	2.173
17.055	1.886	5.002	0.393	1.1160084652E+002	3.2716305721E+001	-2.4812509204E+001	0.620	2.119	2.156
17.060	1.885	5.004	0.350	1.1148352627E+002	3.2674831265E+001	-2.4757942053E+001	0.619	2.118	2.156
17.288	1.849	5.084	0.356	1.0562394687E+002	3.0605326185E+001	-2.6312350296E+001	0.594	2.094	2.146
17.517	1.812	5.167	0.362	9.9448829084E+001	2.8430003282E+001	-2.2737617717E+001	0.567	2.074	2.138
17.520	1.811	5.167	0.341	9.9382570258E+001	2.8406781313E+001	-2.2726855393E+001	0.566	2.074	2.138
17.749	1.765	5.246	0.341	9.3402721595E+001	2.6316220489E+001	-2.3760991563E+001	0.539	2.064	2.136
17.755	1.764	5.247	0.304	9.3260759949E+001	2.6266833043E+001	-2.3718242848E+001	0.538	2.064	2.136
17.830	1.744	5.270	0.322	9.1454109115E+001	2.5640343911E+001	-2.4696942326E+001	0.530	2.064	2.137
17.999	1.706	5.326	0.321	8.7013756162E+001	2.4096355551E+001	-2.3640353482E+001	0.509	2.066	2.140
18.040	1.694	5.338	0.314	8.6062629752E+001	2.3766410473E+001	-2.3581934242E+001	0.505	2.068	2.141
18.241	1.646	5.402	0.319	8.0739347600E+001	2.1911790022E+001	-2.6491722007E+001	0.482	2.080	2.150
18.390	1.610	5.449	0.321	7.6789041620E+001	2.0536170693E+001	-2.7192563057E+001	0.463	2.094	2.159
18.480	1.589	5.479	0.324	7.4298561193E+001	1.9669895368E+001	-2.7457901207E+001	0.451	2.104	2.166
18.709	1.535	5.553	0.320	6.8113459053E+001	1.7526743557E+001	-2.2405244870E+001	0.419	2.133	2.185
18.719	1.532	5.555	0.307	6.7888178655E+001	1.7448880755E+001	-2.2343951187E+001	0.418	2.135	2.186
18.948	1.474	5.626	0.308	6.2033176885E+001	1.5458346050E+001	-2.1451402443E+001	0.387	2.168	2.209
18.955	1.472	5.628	0.280	6.1874591786E+001	1.5405060287E+001	-2.1352338519E+001	0.386	2.169	2.210
19.184	1.408	5.692	0.280	5.6739082719E+001	1.3721283968E+001	-2.1092031197E+001	0.359	2.201	2.234
19.194	1.405	5.695	0.272	5.6523782129E+001	1.3652022966E+001	-2.1020400580E+001	0.358	2.202	2.235
19.423	1.339	5.757	0.271	5.1770822181E+001	1.2158568223E+001	-1.8326716396E+001	0.333	2.232	2.262
19.434	1.336	5.760	0.265	5.1574852850E+001	1.2097912375E+001	-1.8414209320E+001	0.332	2.234	2.263
19.510	1.314	5.780	0.261	5.0061812542E+001	1.1632617148E+001	-1.9523088460E+001	0.324	2.243	2.272
19.676	1.263	5.823	0.282	4.6931407038E+001	1.0683259285E+001	-1.9572168139E+001	0.308	2.262	2.292
19.905	1.204	5.892	0.298	4.2213928165E+001	9.2898517504E+000	-1.8594140802E+001	0.282	2.288	2.326
19.921	1.199	5.896	0.321	4.1915283431E+001	9.2035935226E+000	-1.8594728229E+001	0.280	2.289	2.328
20.150	1.140	5.970	0.324	3.7195770999E+001	7.8569842891E+000	-2.0925402622E+001	0.253	2.312	2.367
20.156	1.139	5.972	0.380	3.7081027650E+001	7.8253816141E+000	-2.0966447621E+001	0.252	2.312	2.368
20.350	1.096	6.046	0.374	3.2771347915E+001	6.6495936407E+000	-1.9520590043E+001	0.226	2.334	2.410

20.387	1.087	6.059	0.376	3.2072207204E+001	6.4635548489E+000	-1.9234241647E+001	0.221	2.337	2.417
20.614	1.031	6.146	0.377	2.7389113891E+001	5.2474329037E+000	-1.9405149655E+001	0.191	2.362	2.471
20.843	0.968	6.231	0.371	2.3216839329E+001	4.2416889643E+000	-1.5165251606E+001	0.164	2.388	2.525
20.848	0.967	6.232	0.396	2.3148669372E+001	4.2258353982E+000	-1.5158869338E+001	0.164	2.388	2.526
21.076	0.905	6.323	0.398	1.9051857384E+001	3.3127144825E+000	-1.5963284714E+001	0.138	2.416	2.583
21.077	0.905	6.323	0.407	1.9050432874E+001	3.3124066037E+000	-1.5962770419E+001	0.138	2.416	2.583
21.305	0.840	6.416	0.407	1.5255319305E+001	2.5441387882E+000	-1.6648073455E+001	0.114	2.438	2.632
21.310	0.839	6.418	0.402	1.5183751836E+001	2.5298221463E+000	-1.6565889090E+001	0.113	2.439	2.633
21.400	0.811	6.454	0.434	1.3845102471E+001	2.2835899772E+000	-1.5266866867E+001	0.105	2.443	2.645
21.548	0.773	6.522	0.446	1.1479773767E+001	1.8639821058E+000	-1.5289126415E+001	0.104	2.444	2.659
21.777	0.706	6.622	0.436	8.2358078817E+000	1.3341802089E+000	-1.2416088041E+001	0.104	2.430	2.658
21.799	0.698	6.631	0.477	7.9661394468E+000	1.2916577897E+000	-1.2392031681E+001	0.104	2.428	2.657
22.027	0.638	6.742	0.481	4.7848451991E+000	8.1157440225E-001	-1.1159951994E+001	0.104	2.385	2.623
22.039	0.634	6.747	0.484	4.6524205486E+000	7.9278007140E-001	-1.1064330505E+001	0.104	2.383	2.621
22.268	0.571	6.858	0.486	1.9092465936E+000	4.2196015250E-001	-9.7253572606E+000	0.104	2.314	2.553
22.275	0.569	6.862	0.468	1.8392376283E+000	4.1320858490E-001	-9.6584220030E+000	0.104	2.311	2.550
22.504	0.498	6.969	0.468	-4.0563018150E-001	1.4356866487E-001	-7.7222488338E+000	0.104	2.227	2.462
22.508	0.497	6.971	0.434	-4.3680449941E-001	1.4015908492E-001	-7.6723767184E+000	0.104	2.226	2.460
22.630	0.453	7.024	0.434	-1.3247138020E+000	5.0085617647E-002	-6.9309458798E+000	0.104	2.181	2.412
22.743	0.412	7.072	0.468	-2.0689880411E+000	-1.9360414828E-002	-6.4420513001E+000	0.104	2.139	2.367
22.972	0.336	7.183	0.477	-3.4692066360E+000	-1.3407357316E-001	-4.5366544578E+000	0.104	2.053	2.273
23.003	0.324	7.197	0.508	-3.6060211431E+000	-1.4291914178E-001	-4.2985801975E+000	0.104	2.044	2.262
23.232	0.253	7.316	0.530	-4.5586489148E+000	-1.9667770733E-001	-2.6371390003E+000	0.104	1.981	2.188
23.296	0.236	7.352	0.667	-4.6992500630E+000	-2.0032216774E-001	-2.3725320559E+000	0.104	1.973	2.178
23.524	0.201	7.511	0.677	-5.3734026304E+000	-2.1235417399E-001	-1.3927908617E+000	0.104	1.908	2.099
23.710	0.165	7.632	0.705	-5.3982673627E+000	-1.7675976436E-001	1.3211479364E+000	0.104	1.908	2.085
23.938	0.139	7.802	0.706	-4.6849050468E+000	-9.1110859564E-002	4.7643381497E+000	0.104	2.033	2.174
24.167	0.096	7.955	0.634	-3.2184999455E+000	-2.6048344384E-002	7.4788113456E+000	0.104	2.516	2.627
24.396	0.037	8.092	0.553	-1.2632190166E+000	-4.7873581722E-003	4.2352108961E+000	0.104	5.706	6.279
24.440	0.013	8.106	0.553	-1.1128076530E+000	-4.5628967248E-003	7.1722816859E+000	0.104	7.515	8.375

 LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
 ht(m) : Altezza linea di thrust da nodo sinistro base concio
 yt(m) : coordinata Y linea di trust
 yt'(-) : gradiente pendenza locale linea di trust
 E(x) (kN/m) : Forza Normale interconcio
 T(x) (kN/m) : Forza Tangenziale interconcio
 E' (kN) : derivata Forza normale interconcio
 Rho(x) (-) : fattore mobilizzazione resistenza al taglio verticale interconcio ZhU et al.(2003)
 FS_qFEM(x) (-) : fattore di sicurezza locale stimato (locale in X) by qFEM
 FS_srmFEM(x) (-) : fattore di sicurezza locale stimato (locale in X) by SRM Procedure

TABELLA SFORZI DI TAGLIO DISTRIBUITI LUNGO SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	dl (m)	alpha (°)	TauStress (kPa)	TauF (kN/m)	TauStrength (kPa)	TauS (kN/m)
5.578	0.229	0.274	-33.495	-0.675	-0.185	25.478	6.989
5.807	0.229	0.274	-33.495	-2.025	-0.556	26.647	7.310

6.035	0.229	0.274	-33.495	-3.375	-0.926	28.206	7.737
6.264	0.111	0.133	-33.495	-4.378	-0.582	29.603	3.938
6.375	0.229	0.274	-33.494	-5.380	-1.476	31.553	8.655
6.604	0.187	0.224	-33.494	-6.606	-1.478	34.068	7.622
6.791	0.079	0.095	-33.493	-7.391	-0.704	33.929	3.233
6.870	0.217	0.260	-33.493	-8.283	-2.151	36.171	9.396
7.087	0.229	0.274	-33.492	-9.635	-2.643	38.311	10.509
7.315	0.039	0.046	-33.492	-10.446	-0.484	39.061	1.811
7.354	0.229	0.274	-33.491	-11.258	-3.088	40.357	11.070
7.583	0.007	0.009	-33.491	-11.975	-0.107	40.798	0.364
7.590	0.229	0.274	-33.489	-12.692	-3.481	42.494	11.656
7.819	0.016	0.020	-33.489	-13.435	-0.263	43.563	0.852
7.835	0.229	0.274	-33.488	-14.179	-3.889	44.701	12.261
8.064	0.023	0.027	-33.488	-14.943	-0.409	44.460	1.217
8.087	0.083	0.100	-33.487	-15.264	-1.521	46.481	4.632
8.170	0.170	0.204	-33.487	-16.072	-3.276	47.593	9.701
8.340	0.014	0.017	-33.487	-16.699	-0.276	49.812	0.824
8.354	0.229	0.274	-33.486	-17.939	-4.920	51.911	14.239
8.583	0.057	0.068	-33.486	-19.399	-1.320	53.969	3.674
8.639	0.229	0.267	-31.003	-19.753	-5.272	58.757	15.681
8.868	0.001	0.001	-31.003	-20.812	-0.016	61.058	0.046
8.869	0.208	0.234	-27.239	-19.626	-4.591	65.359	15.289
9.077	0.185	0.199	-22.022	-17.338	-3.455	68.692	13.690
9.261	0.215	0.224	-16.468	-13.455	-3.012	67.243	15.055
9.476	0.181	0.184	-10.628	-8.019	-1.477	63.965	11.778
9.657	0.206	0.206	-4.334	-1.003	-0.207	60.122	12.402
9.863	0.057	0.057	0.661	5.065	0.290	56.761	3.245
9.920	0.170	0.170	0.661	5.151	0.875	57.121	9.701
10.090	0.040	0.040	4.022	9.419	0.379	55.257	2.226
10.130	0.229	0.229	4.022	9.579	2.197	55.606	12.752
10.359	0.026	0.026	4.022	9.730	0.249	55.912	1.433
10.384	0.229	0.229	4.293	10.230	2.347	56.191	12.890
10.613	0.039	0.039	4.293	10.393	0.404	56.587	2.198
10.652	0.229	0.229	4.604	10.968	2.517	56.949	13.070
10.881	0.021	0.021	4.604	11.124	0.232	57.302	1.196
10.901	0.229	0.230	4.927	11.721	2.691	57.596	13.224
11.130	0.013	0.013	4.927	11.876	0.151	57.896	0.738
11.143	0.057	0.057	5.270	12.395	0.711	57.950	3.326
11.200	0.178	0.179	5.270	12.478	2.232	58.124	10.395
11.378	0.229	0.230	5.584	13.021	2.993	58.246	13.388
11.607	0.005	0.005	5.584	13.082	0.071	58.348	0.317
11.612	0.229	0.230	5.898	13.584	3.124	58.401	13.431
11.841	0.006	0.006	5.898	13.644	0.083	58.511	0.356
11.847	0.043	0.043	6.208	14.095	0.609	58.458	2.525
11.890	0.193	0.194	6.208	14.082	2.736	58.431	11.353
12.083	0.229	0.230	6.512	14.454	3.328	58.211	13.403
12.312	0.010	0.010	6.512	14.422	0.142	58.114	0.571
12.322	0.138	0.139	6.513	14.403	2.005	58.081	8.087
12.460	0.101	0.101	6.513	14.364	1.456	57.991	5.877
12.561	0.199	0.201	6.514	14.305	2.870	57.875	11.610
12.760	0.038	0.039	6.514	14.258	0.552	57.761	2.235
12.798	0.202	0.203	6.514	14.212	2.883	57.690	11.703
13.000	0.037	0.037	6.514	14.198	0.522	57.652	2.121

13.037	0.229	0.230	6.515	14.391	3.313	58.103	13.378
13.265	0.007	0.007	6.515	14.562	0.109	58.487	0.438
13.273	0.229	0.230	6.516	14.734	3.392	58.902	13.562
13.502	0.012	0.012	6.516	14.908	0.181	59.283	0.720
13.514	0.229	0.230	6.517	15.083	3.473	59.686	13.742
13.742	0.014	0.015	6.517	15.259	0.221	60.068	0.871
13.757	0.229	0.230	6.518	15.436	3.554	60.478	13.925
13.986	0.014	0.015	6.518	15.611	0.228	60.855	0.887
14.000	0.007	0.007	6.518	15.627	0.109	60.896	0.425
14.007	0.229	0.230	6.519	15.791	3.636	61.272	14.108
14.236	0.029	0.030	6.519	15.970	0.472	61.665	1.824
14.265	0.229	0.231	8.334	18.945	4.380	61.454	14.208
14.494	0.002	0.002	8.334	19.118	0.045	61.813	0.145
14.496	0.224	0.227	10.439	22.501	5.115	61.412	13.962
14.720	0.214	0.220	12.725	26.260	5.768	61.402	13.487
14.934	0.229	0.237	14.924	29.788	7.050	61.546	14.567
15.163	0.216	0.226	17.116	33.167	7.500	62.137	14.050
15.379	0.227	0.240	19.270	36.310	8.716	62.554	15.016
15.605	0.229	0.245	21.165	38.936	9.551	62.705	15.382
15.834	0.008	0.009	21.165	39.053	0.353	62.736	0.567
15.843	0.067	0.073	22.723	40.932	2.992	62.549	4.572
15.910	0.199	0.216	22.723	40.816	8.825	63.232	13.671
16.109	0.229	0.249	23.486	41.352	10.314	62.713	15.642
16.338	0.019	0.020	23.486	41.155	0.834	62.017	1.256
16.357	0.229	0.251	24.327	41.844	10.505	63.012	15.819
16.586	0.009	0.010	24.327	41.633	0.416	63.083	0.630
16.595	0.229	0.253	25.199	42.296	10.693	64.006	16.182
16.823	0.003	0.003	25.199	42.068	0.125	63.422	0.188
16.826	0.229	0.255	26.075	42.669	10.867	64.347	16.388
17.055	0.005	0.005	26.075	42.415	0.224	63.084	0.333
17.060	0.229	0.256	26.907	42.904	10.999	62.989	16.148
17.288	0.229	0.258	27.732	43.053	11.127	62.853	16.244
17.517	0.003	0.003	27.732	42.752	0.141	61.151	0.202
17.520	0.229	0.260	28.516	43.071	11.213	61.900	16.115
17.749	0.006	0.007	28.516	42.742	0.291	60.801	0.415
17.755	0.075	0.086	29.246	43.183	3.731	60.587	5.235
17.830	0.169	0.193	29.246	42.774	8.266	61.192	11.825
17.999	0.041	0.047	29.247	42.407	2.012	59.754	2.835
18.040	0.201	0.230	29.247	41.827	9.627	60.675	13.965
18.241	0.149	0.171	29.248	40.944	7.001	60.105	10.277
18.390	0.090	0.103	29.248	40.332	4.168	60.114	6.212
18.480	0.229	0.262	29.250	39.498	10.356	59.345	15.560
18.709	0.010	0.012	29.250	38.873	0.452	57.228	0.666
18.719	0.229	0.262	29.251	38.248	10.028	57.881	15.176
18.948	0.007	0.009	29.251	37.630	0.321	55.927	0.477
18.955	0.229	0.262	29.252	37.012	9.704	55.740	14.615
19.184	0.010	0.012	29.252	36.386	0.427	54.742	0.642
19.194	0.229	0.262	29.253	35.761	9.377	54.107	14.187
19.423	0.011	0.012	29.253	35.134	0.433	52.806	0.651
19.434	0.076	0.087	29.254	34.907	3.050	53.139	4.642
19.510	0.166	0.191	29.254	34.227	6.529	52.304	9.978
19.676	0.229	0.262	29.255	33.087	8.675	51.981	13.630
19.905	0.016	0.019	29.255	32.380	0.601	50.762	0.942

19.921	0.229	0.264	30.128	32.116	8.494	50.676	13.403
20.150	0.005	0.006	30.128	31.407	0.199	50.118	0.318
20.156	0.194	0.227	31.042	31.221	7.083	49.840	11.307
20.350	0.037	0.043	31.042	30.501	1.309	48.354	2.075
20.387	0.228	0.268	31.973	30.131	8.088	47.990	12.882
20.614	0.229	0.272	32.878	29.100	7.926	45.939	12.513
20.843	0.005	0.005	32.878	28.377	0.152	44.543	0.239
20.848	0.229	0.275	33.775	27.924	7.685	44.444	12.231
21.076	0.000	0.000	33.775	27.182	0.003	43.424	0.005
21.077	0.229	0.278	34.653	26.663	7.415	42.679	11.869
21.305	0.004	0.005	34.653	25.873	0.135	42.240	0.221
21.310	0.090	0.111	35.478	25.747	2.857	41.131	4.564
21.400	0.148	0.181	35.478	24.903	4.519	40.847	7.413
21.548	0.229	0.284	36.227	23.698	6.720	39.346	11.158
21.777	0.022	0.027	36.227	22.776	0.622	38.429	1.049
21.799	0.229	0.286	36.767	21.930	6.262	38.046	10.864
22.027	0.012	0.015	36.767	21.023	0.315	36.954	0.555
22.039	0.229	0.288	37.331	20.180	5.806	36.453	10.487
22.268	0.007	0.009	37.331	19.269	0.176	35.512	0.324
22.275	0.229	0.290	37.903	18.407	5.336	34.916	10.123
22.504	0.004	0.005	37.903	17.485	0.090	34.069	0.175
22.508	0.122	0.156	38.470	17.032	2.650	33.589	5.227
22.630	0.113	0.144	38.470	16.072	2.315	33.001	4.753
22.743	0.229	0.295	39.197	14.692	4.337	32.077	9.468
22.972	0.032	0.041	39.197	13.584	0.555	31.307	1.280
23.003	0.229	0.298	39.770	12.486	3.716	30.664	9.126
23.232	0.064	0.083	39.770	11.213	0.927	29.888	2.471
23.296	0.229	0.300	40.299	9.941	2.982	29.258	8.776
23.524	0.185	0.243	40.299	8.100	1.967	28.165	6.841
23.710	0.229	0.301	40.581	6.255	1.884	27.123	8.169
23.938	0.229	0.301	40.581	4.198	1.264	26.382	7.946
24.167	0.229	0.301	40.581	2.141	0.645	25.773	7.763
24.396	0.044	0.058	40.581	0.914	0.053	25.375	1.477
24.440	0.080	0.105	40.581	0.357	0.037	25.075	2.630

 LEGENDA SIMBOLI

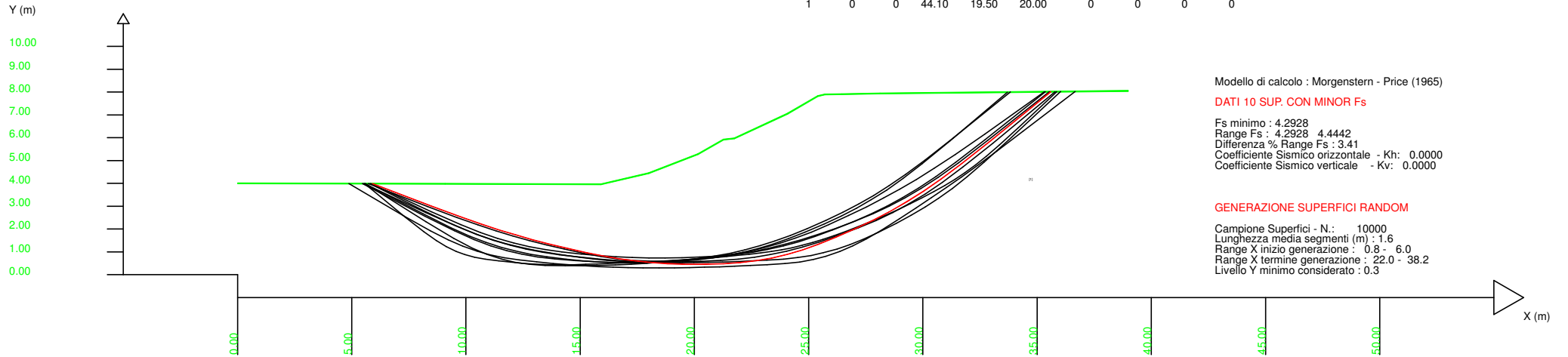
X(m) : Ascissa sinistra concio
 dx(m) : Larghezza concio
 dl(m) : lunghezza base concio
 alpha(°) : Angolo pendenza base concio
 TauStress(kPa) : Sforzo di taglio su base concio
 TauF (kN/m) : Forza di taglio su base concio
 TauStrength(kPa) : Resistenza al taglio su base concio
 TauS (kN/m) : Forza resistente al taglio su base concio

VERIFICA DI STABILITA'
STATO MODIFICATO

SSAP 5.0 (2020) - Slope Stability Analysis Program
 Software by Dr.Geol. L.Borselli - www.lorenzo-borselli.eu
 SSAP/DXF generator rel. 2.0 (2020)

Data : 10/11/2020
 Localita' : San Sebastiano - S.Maria a Monte
 Descrizione : profilatura versante (Sez.1 Tav.4) lato sud stato modificato in condizioni statiche non drenate
 [n] = N. strato o lente

# Parametri Geotecnici degli strati #									
N.	phi'	C'	Cu	Gamm	GammSat	sgci	GSI	mi	D
..	deg	kPa	kPa	kN/m3	kN/m3	MPa	..	..	..
1	0	0	44.10	19.50	20.00	0	0	0	0



Modello di calcolo : Morgenstern - Price (1965)

DATI 10 SUP. CON MINOR Fs

Fs minimo : 4.2928
 Range Fs : 4.2928 - 4.4442
 Differenza % Range Fs : 3.41
 Coefficiente Sismico orizzontale - Kh: 0.0000
 Coefficiente Sismico verticale - Kv: 0.0000

GENERAZIONE SUPERFICI RANDOM

Campione Superfici - N.: 10000
 Lunghezza media segmenti (m) : 1.6
 Range X inizio generazione : 0.8 - 6.0
 Range X termine generazione : 22.0 - 38.2
 Livello Y minimo considerato : 0.3

Report elaborazioni

SSAP 5.0 - Slope Stability Analysis Program (1991,2020)

WWW.SSAP.EU

Build No. 11716

BY

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** Gia' Ricercatore CNR-IRPI fino a Luglio 2011

Ultima Revisione struttura tabelle del report: 12 settembre 2020

File report: D:\ssp2010prove\lavori\smontemuro\PROFILI\verifiche\modificato statico nd.txt

Data: 10/11/2020

Localita' :

Descrizione: Riprofilatura versante (Sez.1 Tav.4) lato sud stato modificato in condizioni statiche non drenate

Modello pendio: PROFILOPROND.mod

----- PARAMETRI DEL MODELLO DEL PENDIO -----

___ PARAMETRI GEOMETRICI - Coordinate X Y (in m) ___

SUP T.		SUP 2		SUP 3		SUP 4	
X	Y	X	Y	X	Y	X	Y
0.00	4.00	-	-	-	-	-	-
9.09	3.98	-	-	-	-	-	-
15.91	3.96	-	-	-	-	-	-
18.00	4.45	-	-	-	-	-	-
20.16	5.28	-	-	-	-	-	-
21.27	5.92	-	-	-	-	-	-
21.75	5.97	-	-	-	-	-	-
24.07	7.05	-	-	-	-	-	-
25.40	7.82	-	-	-	-	-	-
25.71	7.90	-	-	-	-	-	-
26.45	7.91	-	-	-	-	-	-
28.13	7.94	-	-	-	-	-	-
38.99	8.05	-	-	-	-	-	-

ASSENZA DI FALDA

----- PARAMETRI GEOMECCANICI -----

STRATO	1	fi`	C`	Cu	Gamm	Gamm_sat	STR_IDX	sgci	GSI	mi	D
		0.00	0.00	44.10	19.50	20.00	2.755	0.00	0.00	0.00	0.00

LEGENDA: fi` _____ Angolo di attrito interno efficace(in gradi)

C` _____ Coesione efficace (in Kpa)

Cu _____ Resistenza al taglio Non drenata (in Kpa)

Gamm _____ Peso di volume terreno fuori falda (in KN/m^3)
 Gamm_sat _____ Peso di volume terreno immerso (in KN/m^3)
 STR_IDX _____ Indice di resistenza (usato in solo in 'SNIFF SEARCH) (adimensionale)
 ---- SOLO Per AMMASSI ROCCIOSI FRATTURATI - Parametri Criterio di Rottura di Hoek (2002)-
 sigci _____ Resistenza Compressione Uniassiale Roccia Intatta (in MPa)
 GSI _____ Geological Strenght Index ammasso(adimensionale)
 mi _____ Indice litologico ammasso(adimensionale)
 D _____ Fattore di disturbo ammasso(adimensionale)
 Fattore di riduzione NTC2018: gammaPHI=1.25 e gammaC=1.25 - DISATTIVATO (solo per ROCCE)
 Uso CRITERIO DI ROTTURA Hoek et al.(2002,2006) - non-lineare - Generalizzato, secondo Lei et al.(2016)

----- INFORMAZIONI GENERAZIONE SUPERFICI RANDOM -----

*** PARAMETRI PER LA GENERAZIONE DELLE SUPERFICI

METODO DI RICERCA: CONVEX RANDOM - Chen (1992)
 FILTRAGGIO SUPERFICI : ATTIVATO
 COORDINATE X1,X2,Y OSTACOLO : 0.00 0.00 0.00
 LUNGHEZZA MEDIA SEGMENTI (m): 1.6 (+/-) 50%
 INTERVALLO ASCISSE RANDOM STARTING POINT (Xmin .. Xmax): 0.78 6.00
 LIVELLO MINIMO CONSIDERATO (Ymin): 0.28
 INTERVALLO ASCISSE AMMESSO PER LA TERMINAZIONE (Xmin .. Xmax): 22.00 38.21

*** TOTALE SUPERFICI GENERATE : 10000

----- INFORMAZIONI PARAMETRI DI CALCOLO -----

METODO DI CALCOLO : MORGENSTERN - PRICE (Morgenstern & Price, 1965)
 METODO DI ESPLORAZIONE CAMPO VALORI (lambda0,Fs0) ADOTTATO : A (rapido)
 COEFFICIENTE SISMICO UTILIZZATO Kh : 0.0000
 COEFFICIENTE SISMICO UTILIZZATO Kv (assunto Positivo): 0.0000
 COEFFICIENTE c=Kv/Kh UTILIZZATO : 0.5000
 FORZA ORIZZONTALE ADDIZIONALE IN TESTA (kN/m): 0.00
 FORZA ORIZZONTALE ADDIZIONALE ALLA BASE (kN/m): 0.00

N.B. Le forze orizzontali addizionali in testa e alla base sono poste uguali a 0 durante le tutte le verifiche globali.
 I valori >0 impostati dall'utente sono utilizzati solo in caso di verifica singola

----- RISULTATO FINALE ELABORAZIONI -----

* DATI RELATIVI ALLE 10 SUPERFICI GENERATE CON MINOR Fs *

Fattore di sicurezza (FS)	4.2928 - Min. -	X	Y	Lambda=	0.0782
		5.90	3.99		
		8.48	3.01		
		9.77	2.53		
		10.68	2.22		
		11.48	1.95		
		12.21	1.73		
		12.92	1.53		
		13.66	1.34		
		14.43	1.15		
		15.27	0.96		
		16.02	0.81		

16.73	0.69
17.42	0.60
18.14	0.53
18.84	0.48
19.57	0.46
20.36	0.46
21.26	0.48
22.02	0.53
22.72	0.61
23.37	0.72
24.07	0.89
24.73	1.08
25.43	1.33
26.19	1.64
27.10	2.04
27.88	2.42
28.61	2.80
29.30	3.20
30.02	3.65
30.78	4.18
31.67	4.84
32.96	5.87
35.60	8.02

Fattore di sicurezza (FS) 4.3718 - N.2 -- X Y Lambda= 0.1120

5.56	3.99
7.34	2.52
8.16	1.87
8.70	1.49
9.13	1.23
9.57	1.02
9.95	0.88
10.37	0.76
10.84	0.68
11.43	0.60
11.96	0.55
12.44	0.50
12.90	0.47
13.37	0.45
13.82	0.44
14.28	0.43
14.75	0.44
15.25	0.46
15.73	0.47
16.21	0.49
16.69	0.51
17.16	0.53
17.63	0.55
18.11	0.57
18.58	0.60
19.07	0.62
19.54	0.65

20.01	0.68
20.48	0.72
20.95	0.76
21.42	0.80
21.90	0.84
22.39	0.90
22.91	0.95
23.38	1.02
23.83	1.09
24.27	1.18
24.73	1.29
25.17	1.41
25.63	1.55
26.10	1.71
26.63	1.90
27.12	2.08
27.59	2.27
28.05	2.47
28.52	2.67
28.98	2.88
29.45	3.11
29.95	3.36
30.49	3.64
30.96	3.90
31.41	4.18
31.84	4.47
32.30	4.81
32.79	5.20
33.35	5.68
34.18	6.44
35.86	8.02

Fattore di sicurezza (FS) 4.3969 - N.3 -- X Y Lambda= 0.0886

5.52	3.99
8.24	2.72
9.55	2.13
10.45	1.77
11.21	1.51
11.94	1.29
12.62	1.13
13.34	0.99
14.10	0.87
14.97	0.77
15.77	0.69
16.52	0.63
17.25	0.59
18.00	0.56
18.72	0.55
19.48	0.56
20.27	0.58
21.15	0.62
21.91	0.68

22.63	0.77
23.31	0.88
24.04	1.03
24.73	1.21
25.47	1.43
26.26	1.70
27.18	2.05
27.96	2.38
28.69	2.72
29.36	3.09
30.09	3.52
30.85	4.04
31.75	4.71
33.06	5.76
35.79	8.02

Fattore di sicurezza (FS) 4.4017 - N.4 -- X Y Lambda= 0.0889

5.72	3.99
8.31	2.99
9.61	2.50
10.52	2.18
11.32	1.92
12.05	1.70
12.77	1.50
13.52	1.31
14.30	1.12
15.16	0.93
15.91	0.79
16.62	0.69
17.29	0.63
18.00	0.59
18.68	0.58
19.39	0.61
20.15	0.68
21.04	0.78
21.82	0.89
22.55	1.01
23.24	1.16
23.97	1.33
24.67	1.53
25.40	1.76
26.18	2.03
27.06	2.36
27.82	2.67
28.53	3.00
29.21	3.36
29.93	3.77
30.68	4.27
31.56	4.90
32.86	5.90
35.53	8.01

Fattore di sicurezza (FS)	4.4231	- N.5 --	X	Y	Lambda=	0.0987
			5.47	3.99		
			8.20	2.57		
			9.49	1.92		
			10.36	1.54		
			11.09	1.26		
			11.80	1.05		
			12.44	0.90		
			13.14	0.78		
			13.89	0.69		
			14.78	0.62		
			15.58	0.57		
			16.33	0.55		
			17.05	0.54		
			17.78	0.55		
			18.49	0.57		
			19.23	0.62		
			20.02	0.69		
			20.89	0.78		
			21.64	0.89		
			22.35	1.02		
			23.02	1.17		
			23.74	1.37		
			24.41	1.60		
			25.12	1.87		
			25.88	2.19		
			26.75	2.59		
			27.53	2.97		
			28.28	3.35		
			28.99	3.74		
			29.72	4.17		
			30.51	4.67		
			31.41	5.26		
			32.71	6.16		
			35.33	8.01		

Fattore di sicurezza (FS)	4.4304	- N.6 --	X	Y	Lambda=	0.1088
			5.60	3.99		
			8.24	2.32		
			9.47	1.59		
			10.27	1.17		
			10.92	0.89		
			11.57	0.68		
			12.15	0.54		
			12.78	0.45		
			13.47	0.41		
			14.34	0.40		
			15.12	0.40		
			15.84	0.41		
			16.54	0.43		
			17.24	0.46		

17.93	0.50
18.64	0.56
19.38	0.63
20.18	0.71
20.89	0.81
21.56	0.94
22.19	1.08
22.87	1.27
23.51	1.47
24.20	1.72
24.92	2.02
25.77	2.39
26.50	2.73
27.18	3.09
27.84	3.47
28.52	3.89
29.25	4.39
30.09	5.01
31.32	5.98
33.83	8.00

Fattore di sicurezza (FS) 4.4311 - N.7 -- X Y Lambda= 0.0840

4.87	3.99
7.30	2.56
8.45	1.92
9.22	1.53
9.86	1.25
10.49	1.03
11.06	0.87
11.67	0.74
12.32	0.64
13.10	0.56
13.81	0.49
14.49	0.43
15.14	0.39
15.80	0.35
16.44	0.33
17.09	0.31
17.76	0.30
18.45	0.30
19.12	0.30
19.79	0.31
20.44	0.32
21.10	0.34
21.76	0.37
22.45	0.40
23.18	0.44
23.97	0.48
24.61	0.56
25.21	0.66
25.75	0.81
26.37	1.02

26.93	1.26
27.53	1.57
28.19	1.95
28.97	2.45
29.70	2.92
30.38	3.37
31.04	3.82
31.69	4.28
32.42	4.81
33.24	5.41
34.39	6.29
36.67	8.03

Fattore di sicurezza (FS) 4.4370 - N.8 -- X Y Lambda= 0.0941

5.83	3.99
8.49	2.76
9.77	2.19
10.64	1.84
11.38	1.59
12.09	1.39
12.75	1.23
13.45	1.10
14.19	1.00
15.05	0.91
15.83	0.84
16.57	0.79
17.28	0.75
18.00	0.74
18.72	0.73
19.45	0.75
20.23	0.77
21.09	0.82
21.83	0.89
22.53	0.98
23.19	1.10
23.90	1.26
24.57	1.44
25.28	1.67
26.05	1.95
26.94	2.31
27.70	2.65
28.42	3.00
29.10	3.36
29.81	3.79
30.56	4.29
31.44	4.93
32.72	5.92
35.36	8.01

Fattore di sicurezza (FS) 4.4388 - N.9 -- X Y Lambda= 0.0972

5.57	3.99
------	------

8.12	2.67
9.34	2.06
10.17	1.69
10.87	1.42
11.54	1.20
12.16	1.04
12.83	0.90
13.54	0.78
14.38	0.68
15.12	0.60
15.82	0.55
16.48	0.52
17.17	0.51
17.84	0.51
18.53	0.54
19.27	0.58
20.10	0.65
20.81	0.74
21.48	0.84
22.11	0.97
22.79	1.14
23.43	1.34
24.11	1.57
24.84	1.86
25.69	2.22
26.42	2.56
27.10	2.91
27.74	3.28
28.42	3.71
29.13	4.22
29.97	4.86
31.19	5.87
33.71	8.00

Fattore di sicurezza (FS) 4.4442 - N.10 -- X Y Lambda= 0.0836

5.79	3.99
8.04	2.86
9.14	2.33
9.89	2.00
10.53	1.75
11.14	1.54
11.71	1.37
12.31	1.22
12.95	1.08
13.67	0.95
14.33	0.85
14.96	0.76
15.56	0.69
16.18	0.63
16.78	0.59
17.39	0.55
18.02	0.53

18.70	0.53
19.35	0.52
19.98	0.53
20.60	0.54
21.22	0.55
21.85	0.57
22.50	0.60
23.17	0.64
23.90	0.68
24.52	0.75
25.11	0.84
25.65	0.96
26.25	1.13
26.80	1.32
27.40	1.56
28.05	1.86
28.83	2.24
29.49	2.60
30.11	2.97
30.69	3.34
31.30	3.78
31.94	4.29
32.69	4.93
33.79	5.92
36.03	8.02

----- ANALISI DEFICIT DI RESISTENZA -----
 # DATI RELATIVI ALLE 10 SUPERFICI GENERATE CON MINOR Fs *
 # Analisi Deficit in riferimento a FS(progetto) = 1.200

Sup N.	FS	FTR (kN/m)	FTA (kN/m)	Bilancio (kN/m)	ESITO
1	4.293	1487.9	346.6	1072.0	Surplus
2	4.372	1549.3	354.4	1124.0	Surplus
3	4.397	1516.1	344.8	1102.3	Surplus
4	4.402	1480.4	336.3	1076.8	Surplus
5	4.423	1495.7	338.2	1089.9	Surplus
6	4.430	1456.4	328.7	1061.9	Surplus
7	4.431	1612.9	364.0	1176.1	Surplus
8	4.437	1475.9	332.6	1076.7	Surplus
9	4.439	1435.6	323.4	1047.5	Surplus
10	4.444	1531.6	344.6	1118.0	Surplus

Esito analisi: SURPLUS di RESISTENZA!

Valore minimo di SURPLUS di RESISTENZA (kN/m): 1047.5

Note: FTR --> Forza totale Resistente lungo la superficie
 di scivolamento
 FTA --> Forza totale Agente lungo la superficie
 di scivolamento

IMPORTANTE! : Il Deficit o il Surplus di resistenza viene espresso in kN

per metro di LARGHEZZA rispetto al fronte della scarpata

TABELLA PARAMETRI CONCI DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	alpha (°)	W (kN/m)	ru (-)	U (kPa)	phi ' (°)	(c', Cu) (kPa)
5.901	0.298	-20.77	0.33	0.00	0.00	0.00	44.10
6.199	0.298	-20.77	0.98	0.00	0.00	0.00	44.10
6.497	0.298	-20.77	1.63	0.00	0.00	0.00	44.10
6.795	0.298	-20.77	2.29	0.00	0.00	0.00	44.10
7.094	0.298	-20.77	2.94	0.00	0.00	0.00	44.10
7.392	0.298	-20.77	3.60	0.00	0.00	0.00	44.10
7.690	0.298	-20.77	4.25	0.00	0.00	0.00	44.10
7.988	0.298	-20.77	4.90	0.00	0.00	0.00	44.10
8.286	0.190	-20.77	3.47	0.00	0.00	0.00	44.10
8.477	0.298	-20.26	5.97	0.00	0.00	0.00	44.10
8.775	0.298	-20.26	6.60	0.00	0.00	0.00	44.10
9.073	0.017	-20.26	0.39	0.00	0.00	0.00	44.10
9.090	0.298	-20.26	7.27	0.00	0.00	0.00	44.10
9.388	0.298	-20.26	7.91	0.00	0.00	0.00	44.10
9.686	0.085	-20.26	2.38	0.00	0.00	0.00	44.10
9.772	0.298	-19.28	8.71	0.00	0.00	0.00	44.10
10.070	0.298	-19.28	9.31	0.00	0.00	0.00	44.10
10.368	0.298	-19.28	9.91	0.00	0.00	0.00	44.10
10.666	0.012	-19.28	0.40	0.00	0.00	0.00	44.10
10.678	0.298	-18.19	10.52	0.00	0.00	0.00	44.10
10.976	0.298	-18.19	11.08	0.00	0.00	0.00	44.10
11.274	0.201	-18.19	7.80	0.00	0.00	0.00	44.10
11.476	0.298	-16.82	12.01	0.00	0.00	0.00	44.10
11.774	0.298	-16.82	12.52	0.00	0.00	0.00	44.10
12.072	0.135	-16.82	5.82	0.00	0.00	0.00	44.10
12.207	0.298	-15.73	13.26	0.00	0.00	0.00	44.10
12.505	0.298	-15.73	13.74	0.00	0.00	0.00	44.10
12.803	0.121	-15.73	5.72	0.00	0.00	0.00	44.10
12.924	0.298	-14.65	14.41	0.00	0.00	0.00	44.10
13.222	0.298	-14.65	14.85	0.00	0.00	0.00	44.10
13.521	0.143	-14.65	7.28	0.00	0.00	0.00	44.10
13.664	0.298	-13.61	15.50	0.00	0.00	0.00	44.10
13.962	0.298	-13.61	15.91	0.00	0.00	0.00	44.10
14.260	0.173	-13.61	9.40	0.00	0.00	0.00	44.10
14.433	0.298	-12.69	16.56	0.00	0.00	0.00	44.10
14.731	0.298	-12.69	16.94	0.00	0.00	0.00	44.10
15.029	0.239	-12.69	13.85	0.00	0.00	0.00	44.10
15.268	0.298	-11.24	17.61	0.00	0.00	0.00	44.10
15.566	0.298	-11.24	17.95	0.00	0.00	0.00	44.10
15.864	0.046	-11.24	2.77	0.00	0.00	0.00	44.10
15.910	0.107	-11.24	6.55	0.00	0.00	0.00	44.10
16.017	0.298	-9.53	18.79	0.00	0.00	0.00	44.10
16.315	0.298	-9.53	19.49	0.00	0.00	0.00	44.10
16.613	0.121	-9.53	8.10	0.00	0.00	0.00	44.10
16.734	0.298	-7.64	20.44	0.00	0.00	0.00	44.10

17.032	0.298	-7.64	21.08	0.00	0.00	0.00	44.10
17.331	0.091	-7.64	6.56	0.00	0.00	0.00	44.10
17.422	0.298	-5.73	21.88	0.00	0.00	0.00	44.10
17.720	0.280	-5.73	21.10	0.00	0.00	0.00	44.10
18.000	0.143	-5.73	10.96	0.00	0.00	0.00	44.10
18.143	0.298	-3.75	23.51	0.00	0.00	0.00	44.10
18.441	0.298	-3.75	24.29	0.00	0.00	0.00	44.10
18.739	0.098	-3.75	8.18	0.00	0.00	0.00	44.10
18.837	0.298	-1.80	25.30	0.00	0.00	0.00	44.10
19.136	0.298	-1.80	26.02	0.00	0.00	0.00	44.10
19.434	0.138	-1.80	12.28	0.00	0.00	0.00	44.10
19.572	0.298	-0.04	27.05	0.00	0.00	0.00	44.10
19.870	0.290	-0.04	26.95	0.00	0.00	0.00	44.10
20.160	0.197	-0.04	18.74	0.00	0.00	0.00	44.10
20.357	0.298	1.40	29.17	0.00	0.00	0.00	44.10
20.655	0.298	1.40	30.13	0.00	0.00	0.00	44.10
20.953	0.298	1.40	31.09	0.00	0.00	0.00	44.10
21.252	0.010	1.40	1.06	0.00	0.00	0.00	44.10
21.262	0.008	3.65	0.89	0.00	0.00	0.00	44.10
21.270	0.298	3.65	31.66	0.00	0.00	0.00	44.10
21.568	0.182	3.65	19.33	0.00	0.00	0.00	44.10
21.750	0.266	3.65	28.57	0.00	0.00	0.00	44.10
22.016	0.298	6.56	32.66	0.00	0.00	0.00	44.10
22.314	0.298	6.56	33.27	0.00	0.00	0.00	44.10
22.612	0.105	6.56	11.84	0.00	0.00	0.00	44.10
22.717	0.298	9.91	34.04	0.00	0.00	0.00	44.10
23.015	0.298	9.91	34.54	0.00	0.00	0.00	44.10
23.314	0.053	9.91	6.16	0.00	0.00	0.00	44.10
23.366	0.298	13.18	35.08	0.00	0.00	0.00	44.10
23.664	0.298	13.18	35.48	0.00	0.00	0.00	44.10
23.963	0.107	13.18	12.87	0.00	0.00	0.00	44.10
24.070	0.003	13.18	0.31	0.00	0.00	0.00	44.10
24.073	0.298	16.38	36.08	0.00	0.00	0.00	44.10
24.371	0.298	16.38	36.58	0.00	0.00	0.00	44.10
24.669	0.057	16.38	7.08	0.00	0.00	0.00	44.10
24.726	0.298	19.46	37.11	0.00	0.00	0.00	44.10
25.024	0.298	19.46	37.51	0.00	0.00	0.00	44.10
25.323	0.077	19.46	9.79	0.00	0.00	0.00	44.10
25.400	0.032	19.46	4.02	0.00	0.00	0.00	44.10
25.432	0.278	22.02	35.15	0.00	0.00	0.00	44.10
25.710	0.298	22.02	37.21	0.00	0.00	0.00	44.10
26.008	0.186	22.02	22.86	0.00	0.00	0.00	44.10
26.194	0.256	23.93	30.99	0.00	0.00	0.00	44.10
26.450	0.298	23.93	35.44	0.00	0.00	0.00	44.10
26.748	0.298	23.93	34.70	0.00	0.00	0.00	44.10
27.046	0.056	23.93	6.38	0.00	0.00	0.00	44.10
27.102	0.298	25.66	33.79	0.00	0.00	0.00	44.10
27.400	0.298	25.66	32.99	0.00	0.00	0.00	44.10
27.698	0.184	25.66	19.93	0.00	0.00	0.00	44.10
27.882	0.248	27.75	26.37	0.00	0.00	0.00	44.10
28.130	0.298	27.75	30.91	0.00	0.00	0.00	44.10
28.428	0.184	27.75	18.61	0.00	0.00	0.00	44.10
28.612	0.298	29.99	29.42	0.00	0.00	0.00	44.10

28.910	0.298	29.99	28.44	0.00	0.00	0.00	44.10
29.208	0.091	29.99	8.48	0.00	0.00	0.00	44.10
29.299	0.298	32.17	27.11	0.00	0.00	0.00	44.10
29.598	0.298	32.17	26.04	0.00	0.00	0.00	44.10
29.896	0.124	32.17	10.52	0.00	0.00	0.00	44.10
30.020	0.298	34.76	24.46	0.00	0.00	0.00	44.10
30.318	0.298	34.76	23.28	0.00	0.00	0.00	44.10
30.616	0.167	34.76	12.51	0.00	0.00	0.00	44.10
30.783	0.298	36.73	21.38	0.00	0.00	0.00	44.10
31.081	0.298	36.73	20.10	0.00	0.00	0.00	44.10
31.380	0.291	36.73	18.40	0.00	0.00	0.00	44.10
31.671	0.298	38.37	17.54	0.00	0.00	0.00	44.10
31.969	0.298	38.37	16.19	0.00	0.00	0.00	44.10
32.267	0.298	38.37	14.83	0.00	0.00	0.00	44.10
32.566	0.298	38.37	13.48	0.00	0.00	0.00	44.10
32.864	0.100	38.37	4.20	0.00	0.00	0.00	44.10
32.963	0.298	39.16	11.65	0.00	0.00	0.00	44.10
33.262	0.298	39.16	10.25	0.00	0.00	0.00	44.10
33.560	0.298	39.16	8.86	0.00	0.00	0.00	44.10
33.858	0.298	39.16	7.46	0.00	0.00	0.00	44.10
34.156	0.298	39.16	6.07	0.00	0.00	0.00	44.10
34.454	0.298	39.16	4.67	0.00	0.00	0.00	44.10
34.753	0.298	39.16	3.28	0.00	0.00	0.00	44.10
35.051	0.298	39.16	1.88	0.00	0.00	0.00	44.10
35.349	0.254	39.16	0.50	0.00	0.00	0.00	44.10

 LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
 dx(m) : Larghezza concio
 alpha(°) : Angolo pendenza base concio
 W(kN/m) : Forza peso concio
 ru(-) : Coefficiente locale pressione interstiziale
 U(kPa) : Pressione totale dei pori base concio
 phi'(°) : Angolo di attrito efficace base concio
 c'/Cu (kPa) : Coesione efficace o Resistenza al taglio in condizioni non drenate

TABELLA DIAGRAMMA DELLE FORZE DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	ht (m)	yt (m)	yt' (--)	E (x) (kN/m)	T (x) (kN/m)	E' (kN)	rho (x) (--)	FS_qFEM (--)	FS_srmFEM (--)
5.901	0.000	3.987	-0.284	0.0000000000E+000	0.0000000000E+000	1.5733239938E+002	0.143	16.944	18.160
6.199	0.028	3.902	-0.284	3.2595477647E+001	1.0713255348E-002	6.1274131676E+001	0.143	16.944	18.160
6.497	0.057	3.818	-0.282	3.6545286726E+001	3.4641979128E-002	1.3755499638E+001	0.143	8.858	9.460
6.795	0.086	3.734	-0.279	4.0799570705E+001	8.6138123439E-002	1.4778115844E+001	0.143	6.174	6.570
7.094	0.116	3.651	-0.290	4.5359291364E+001	1.7829249191E-001	1.6667657241E+001	0.143	4.715	5.023
7.392	0.139	3.561	-0.306	5.0740540838E+001	3.1622967256E-001	1.8982589830E+001	0.143	3.773	4.021
7.690	0.160	3.469	-0.296	5.6680939981E+001	4.8436529285E-001	1.9261272653E+001	0.143	3.188	3.392
7.988	0.189	3.384	-0.277	6.2228402233E+001	6.4256991236E-001	1.8583803881E+001	0.143	2.817	2.992
8.286	0.221	3.303	-0.262	6.7764743581E+001	8.0628559522E-001	1.7918679290E+001	0.143	2.558	2.709

8.477	0.246	3.256	-0.241	7.1097755913E+001	9.0839197695E-001	1.7552385456E+001	0.143	2.443	2.581
8.775	0.286	3.185	-0.242	7.6353773567E+001	1.0747096940E+000	1.8473422135E+001	0.143	2.309	2.431
9.073	0.322	3.112	-0.244	8.2115725327E+001	1.2650287527E+000	1.7616033387E+001	0.143	2.223	2.327
9.090	0.325	3.108	-0.232	8.2410236301E+001	1.2748686003E+000	1.7609228629E+001	0.143	2.219	2.322
9.388	0.366	3.039	-0.233	8.8134159768E+001	1.4700147822E+000	1.9660114894E+001	0.143	2.176	2.260
9.686	0.406	2.970	-0.232	9.4135976287E+001	1.6821738785E+000	2.0436196391E+001	0.143	2.162	2.223
9.772	0.418	2.950	-0.229	9.5886159494E+001	1.7455851883E+000	2.0605604365E+001	0.143	2.163	2.217
10.070	0.454	2.882	-0.230	1.0211517215E+002	1.9768159797E+000	2.1448999977E+001	0.143	2.181	2.207
10.368	0.489	2.813	-0.231	1.0867883126E+002	2.2303310751E+000	2.2438483668E+001	0.143	2.219	2.211
10.666	0.525	2.744	-0.229	1.1549799451E+002	2.5063909870E+000	2.2847791564E+001	0.143	2.280	2.229
10.678	0.527	2.742	-0.228	1.1576335992E+002	2.5175043019E+000	2.2879381500E+001	0.143	2.283	2.230
10.976	0.557	2.674	-0.224	1.2283381418E+002	2.8169816071E+000	2.3937511805E+001	0.148	2.362	2.256
11.274	0.589	2.608	-0.217	1.3004023677E+002	3.1389116904E+000	2.4242964025E+001	0.156	2.459	2.288
11.476	0.612	2.565	-0.208	1.3493064991E+002	3.3634252783E+000	2.4123797355E+001	0.162	2.532	2.311
11.774	0.641	2.504	-0.202	1.4204888796E+002	3.6987805319E+000	2.4254311579E+001	0.171	2.640	2.343
12.072	0.671	2.444	-0.202	1.4939647336E+002	4.0559608061E+000	2.5255435265E+001	0.180	2.759	2.374
12.207	0.685	2.417	-0.197	1.5283270468E+002	4.2258561707E+000	2.5359926021E+001	0.184	2.819	2.388
12.505	0.711	2.359	-0.185	1.6028049942E+002	4.5999093590E+000	2.4361424175E+001	0.193	2.947	2.417
12.803	0.742	2.306	-0.173	1.6736241252E+002	4.9659447393E+000	2.3079184932E+001	0.201	3.071	2.440
12.924	0.756	2.286	-0.165	1.7012563194E+002	5.1113870263E+000	2.2953132700E+001	0.204	3.121	2.448
13.222	0.785	2.237	-0.162	1.7707742945E+002	5.4836642241E+000	2.3269805449E+001	0.212	3.248	2.469
13.521	0.816	2.190	-0.158	1.8400427353E+002	5.8667314052E+000	2.3267177073E+001	0.220	3.380	2.488
13.664	0.831	2.168	-0.155	1.8733506602E+002	6.0544009837E+000	2.3479297844E+001	0.224	3.450	2.497
13.962	0.857	2.121	-0.159	1.9445704684E+002	6.4673943584E+000	2.5040264170E+001	0.233	3.605	2.518
14.260	0.881	2.073	-0.160	2.0226964949E+002	6.9430165039E+000	2.6200660557E+001	0.244	3.794	2.545
14.433	0.895	2.046	-0.154	2.0678984548E+002	7.2242714100E+000	2.6211211942E+001	0.250	3.923	2.563
14.731	0.917	2.001	-0.142	2.1461103389E+002	7.7234226457E+000	2.5670214227E+001	0.261	4.173	2.599
15.029	0.945	1.961	-0.125	2.2210014550E+002	8.2210798273E+000	2.4320682904E+001	0.272	4.473	2.643
15.268	0.971	1.934	-0.106	2.2776045136E+002	8.6072134379E+000	2.3194699021E+001	0.279	4.762	2.684
15.566	1.001	1.904	-0.086	2.3449477473E+002	9.0816177276E+000	2.1841136878E+001	0.289	5.171	2.743
15.864	1.039	1.882	-0.071	2.4078700249E+002	9.5507224278E+000	2.0042167114E+001	0.298	5.693	2.817
15.910	1.045	1.880	-0.052	2.4169248934E+002	9.6214106844E+000	1.9860189654E+001	0.300	5.786	2.830
16.017	1.061	1.875	-0.042	2.4380769825E+002	9.7877502441E+000	1.9933298655E+001	0.300	6.026	2.861
16.315	1.099	1.863	-0.028	2.4985282221E+002	1.0283611570E+001	1.9970336800E+001	0.304	6.818	2.961
16.613	1.144	1.858	-0.013	2.5571846164E+002	1.0800573662E+001	1.9070340557E+001	0.308	7.915	3.086
16.734	1.164	1.857	0.005	2.5799485491E+002	1.1012699994E+001	1.9095386463E+001	0.310	8.480	3.143
17.032	1.207	1.860	0.019	2.6388638500E+002	1.1586343196E+001	1.9860920820E+001	0.316	10.274	3.309
17.331	1.255	1.869	0.032	2.6984036012E+002	1.2208605273E+001	2.0398720081E+001	0.323	12.934	3.520
17.422	1.271	1.872	0.052	2.7170903274E+002	1.2411254972E+001	2.0391482268E+001	0.325	14.062	3.596
17.720	1.318	1.889	0.064	2.776537765E+002	1.3087113690E+001	1.8789309346E+001	0.334	18.777	3.875
18.000	1.367	1.910	0.080	2.8261791073E+002	1.3700878510E+001	1.7273381633E+001	0.341	23.775	4.176
18.143	1.394	1.923	0.098	2.8504913605E+002	1.4020604153E+001	1.6721987505E+001	0.343	26.671	4.354
18.441	1.444	1.953	0.111	2.8983141852E+002	1.4680724415E+001	1.5526368778E+001	0.348	31.838	4.781
18.739	1.500	1.989	0.124	2.9430941576E+002	1.5352761981E+001	1.4414430988E+001	0.352	33.482	5.314
18.837	1.519	2.002	0.143	2.9570745498E+002	1.5574522213E+001	1.4088767924E+001	0.354	33.275	5.518
19.136	1.572	2.046	0.158	2.9979384305E+002	1.6259670647E+001	1.3228543413E+001	0.359	31.246	6.265
19.434	1.632	2.096	0.190	3.0359725935E+002	1.6956911915E+001	1.3730992778E+001	0.364	27.980	7.232
19.572	1.668	2.128	0.233	3.055328001E+002	1.7348025227E+001	1.3709283972E+001	0.368	26.282	7.902
19.870	1.738	2.198	0.232	3.0933622430E+002	1.8145701738E+001	1.1758397814E+001	0.375	23.430	9.649
20.160	1.806	2.265	0.233	3.1248560640E+002	1.8859440681E+001	1.0296015027E+001	0.381	21.501	11.802
20.357	1.852	2.312	0.232	3.1443906436E+002	1.9320414180E+001	9.3993008559E+000	0.381	20.516	13.583
20.655	1.913	2.380	0.223	3.1700913016E+002	1.9957766158E+001	7.5759537504E+000	0.381	19.372	16.638
20.953	1.971	2.445	0.213	3.1895753560E+002	2.0490041391E+001	5.8279114669E+000	0.379	18.428	19.053

21.252	2.026	2.507	0.210	3.2048502920E+002	2.0956277567E+001	4.5536028522E+000	0.376	17.379	20.295
21.262	2.028	2.510	0.211	3.2053030953E+002	2.0971378077E+001	4.4435208282E+000	0.376	17.339	20.314
21.270	2.029	2.511	0.201	3.2056684426E+002	2.0983876899E+001	4.3283827995E+000	0.376	17.305	20.322
21.568	2.070	2.571	0.211	3.2144446628E+002	2.1364615914E+001	2.2240165983E+000	0.382	16.003	19.146
21.750	2.100	2.612	0.235	3.2176909632E+002	2.1591704199E+001	1.2123367388E+000	0.385	15.004	17.730
22.016	2.146	2.676	0.261	3.2186846723E+002	2.1893166936E+001	-8.6551816166E-001	0.383	13.486	15.383
22.314	2.196	2.760	0.299	3.2119577008E+002	2.2195277150E+001	-3.6251172600E+000	0.381	11.712	12.725
22.612	2.256	2.854	0.318	3.1970636478E+002	2.2455907168E+001	-5.9764955358E+000	0.379	10.012	10.478
22.717	2.277	2.888	0.350	3.1904367659E+002	2.2532451052E+001	-7.0419547848E+000	0.378	9.489	9.851
23.015	2.333	2.996	0.353	3.1633266088E+002	2.2710695127E+001	-1.0070077549E+001	0.375	8.112	8.315
23.314	2.384	3.099	0.341	3.1303765314E+002	2.2792153670E+001	-1.1479017017E+001	0.371	7.090	7.300
23.366	2.392	3.115	0.348	3.1242800264E+002	2.2796470560E+001	-1.2087369662E+001	0.370	6.939	7.162
23.664	2.427	3.221	0.340	3.0792617344E+002	2.2741687966E+001	-1.6504783613E+001	0.365	6.159	6.478
23.963	2.455	3.318	0.327	3.0258417404E+002	2.2593371497E+001	-1.7961630727E+001	0.358	5.520	5.954
24.070	2.465	3.353	0.328	3.0065489883E+002	2.2527749510E+001	-1.8211852298E+001	0.356	5.329	5.804
24.073	2.465	3.354	0.408	3.0060832493E+002	2.2526107039E+001	-1.8241132420E+001	0.356	5.325	5.800
24.371	2.499	3.476	0.393	2.9434310773E+002	2.2263732676E+001	-2.2398073257E+001	0.347	4.848	5.436
24.669	2.524	3.589	0.374	2.8724960426E+002	2.1904962353E+001	-2.4117066245E+001	0.337	4.455	5.144
24.726	2.527	3.609	0.355	2.8586459366E+002	2.1826802431E+001	-2.4471946730E+001	0.335	4.390	5.098
25.024	2.528	3.715	0.354	2.7811427216E+002	2.1362493516E+001	-2.7507360623E+001	0.324	4.094	4.886
25.323	2.528	3.820	0.348	2.6945857772E+002	2.0777699150E+001	-3.0144220843E+001	0.312	3.856	4.718
25.400	2.526	3.845	0.327	2.6710539909E+002	2.0603087530E+001	-3.0516378320E+001	0.309	3.804	4.685
25.432	2.525	3.855	0.324	2.6613628758E+002	2.0530159708E+001	-3.0828442397E+001	0.308	3.783	4.672
25.710	2.503	3.946	0.319	2.5687780413E+002	1.9800057498E+001	-3.4645193867E+001	0.298	3.621	4.573
26.008	2.476	4.040	0.300	2.4610694257E+002	1.8895160840E+001	-3.6578607604E+001	0.290	3.485	4.496
26.194	2.452	4.091	0.275	2.3925112150E+002	1.8274086944E+001	-3.7644651410E+001	0.284	3.426	4.475
26.450	2.409	4.161	0.265	2.2934670229E+002	1.7350658154E+001	-3.8953305151E+001	0.274	3.364	4.462
26.748	2.353	4.238	0.257	2.1764795081E+002	1.6225865443E+001	-4.0106384767E+001	0.262	3.318	4.471
27.046	2.297	4.314	0.259	2.0542634160E+002	1.5025668511E+001	-4.3425856577E+001	0.248	3.289	4.505
27.102	2.288	4.329	0.251	2.0299057718E+002	1.4786532804E+001	-4.3246995738E+001	0.245	3.285	4.514
27.400	2.218	4.403	0.248	1.9110885642E+002	1.3618394606E+001	-3.9628998514E+001	0.231	3.277	4.572
27.698	2.149	4.477	0.255	1.7935494052E+002	1.2477283443E+001	-4.0268358894E+001	0.217	3.287	4.652
27.882	2.109	4.526	0.258	1.7185841252E+002	1.1761712790E+001	-3.9645816928E+001	0.207	3.295	4.709
28.130	2.042	4.589	0.268	1.6241498613E+002	1.0881000438E+001	-3.9072541544E+001	0.196	3.313	4.789
28.428	1.968	4.672	0.287	1.5041293975E+002	9.8001540204E+000	-4.1066520230E+001	0.182	3.340	4.902
28.612	1.926	4.727	0.300	1.4277180914E+002	9.1311357789E+000	-4.1220426996E+001	0.173	3.359	4.979
28.910	1.844	4.817	0.303	1.3064940188E+002	8.1035791645E+000	-3.9539018170E+001	0.159	3.396	5.109
29.208	1.762	4.907	0.309	1.1918983880E+002	7.1847356682E+000	-3.9394201881E+001	0.146	3.438	5.242
29.299	1.740	4.937	0.323	1.1557793003E+002	6.9046226802E+000	-3.9268925290E+001	0.143	3.451	5.285
29.598	1.648	5.033	0.325	1.0427814617E+002	6.0533764775E+000	-3.7128132998E+001	0.143	3.500	5.427
29.896	1.559	5.131	0.332	9.3433866474E+001	5.2746809514E+000	-3.6110238844E+001	0.143	3.554	5.573
30.020	1.523	5.173	0.352	8.8964824717E+001	4.9632371404E+000	-3.5960326783E+001	0.143	3.577	5.636
30.318	1.422	5.280	0.365	7.8272656050E+001	4.2465493951E+000	-3.5208622966E+001	0.143	3.641	5.793
30.616	1.327	5.391	0.384	6.7965600635E+001	3.5877030785E+000	-3.5217020947E+001	0.143	3.711	5.954
30.783	1.278	5.459	0.422	6.2028110011E+001	3.2190917599E+000	-3.5445336684E+001	0.143	3.754	6.050
31.081	1.184	5.587	0.452	5.1531286854E+001	2.5913864068E+000	-3.4695183199E+001	0.143	3.840	6.230
31.380	1.103	5.728	0.485	4.1335113091E+001	2.0207504248E+000	-3.3414655004E+001	0.143	3.931	6.409
31.671	1.030	5.873	0.498	3.1824053797E+001	1.5150790770E+000	-3.1123518912E+001	0.143	4.016	6.574
31.969	0.943	6.022	0.495	2.3010703935E+001	1.0761889867E+000	-2.7369976291E+001	0.143	4.091	6.713
32.267	0.853	6.168	0.494	1.5499976999E+001	7.3338052925E-001	-2.3689836281E+001	0.143	4.145	6.810
32.566	0.766	6.317	0.484	8.8815463980E+000	4.5690894561E-001	-1.9653912033E+001	0.143	4.175	6.864
32.864	0.670	6.457	0.479	3.7779365408E+000	2.7076114428E-001	-1.6067161247E+001	0.143	4.173	6.862
32.963	0.641	6.507	0.493	2.2129921668E+000	2.1790036636E-001	-1.4949317577E+001	0.143	4.167	6.851

33.262	0.544	6.653	0.502	-1.5588344217E+000	1.0595886404E-001	-1.1191823551E+001	0.143	4.132	6.794
33.560	0.455	6.807	0.521	-4.4620661241E+000	3.2381655718E-002	-8.8380084989E+000	0.143	4.091	6.724
33.858	0.369	6.964	0.561	-6.8300238428E+000	-1.8895723783E-002	-7.5208650578E+000	0.143	4.031	6.624
34.156	0.304	7.141	0.607	-8.9476812189E+000	-5.0929530584E-002	-5.0022866591E+000	0.143	3.946	6.481
34.454	0.246	7.326	0.602	-9.8135014579E+000	-5.1427714759E-002	-3.5857413085E-001	0.143	3.893	6.391
34.753	0.177	7.500	0.592	-9.1615429916E+000	-3.2856515073E-002	4.3822176451E+000	0.143	3.894	6.389
35.051	0.113	7.679	0.604	-7.1998471155E+000	-1.4713211983E-002	8.7871587904E+000	0.143	4.114	6.751
35.349	0.051	7.861	0.604	-3.9206814940E+000	-4.5195553792E-003	1.3403593777E+001	0.143	10.892	17.876

 LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
 ht(m) : Altezza linea di thrust da nodo sinistro base concio
 yt(m) : coordinata Y linea di trust
 yt'(-) : gradiente pendenza locale linea di trust
 E(x) (kN/m) : Forza Normale interconcio
 T(x) (kN/m) : Forza Tangenziale interconcio
 E' (kN) : derivata Forza normale interconcio
 Rho(x) (-) : fattore mobilizzazione resistenza al taglio verticale interconcio ZhU et al.(2003)
 FS_qFEM(x) (-) : fattore di sicurezza locale stimato (locale in X) by qFEM
 FS_srmFEM(x) (-) : fattore di sicurezza locale stimato (locale in X) by SRM Procedure

TABELLA SFORZI DI TAGLIO DISTRIBUITI LUNGO SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	dl (m)	alpha (°)	TauStress (kPa)	TauF (kN/m)	TauStrength (kPa)	TauS (kN/m)
5.901	0.298	0.319	-20.769	-0.363	-0.116	44.151	14.081
6.199	0.298	0.319	-20.769	-1.090	-0.348	44.214	14.102
6.497	0.298	0.319	-20.769	-1.817	-0.580	44.346	14.144
6.795	0.298	0.319	-20.769	-2.544	-0.812	44.540	14.205
7.094	0.298	0.319	-20.769	-3.271	-1.043	44.758	14.275
7.392	0.298	0.319	-20.769	-3.998	-1.275	44.902	14.321
7.690	0.298	0.319	-20.769	-4.725	-1.507	44.855	14.306
7.988	0.298	0.319	-20.769	-5.452	-1.739	44.881	14.314
8.286	0.190	0.204	-20.769	-6.048	-1.232	44.863	9.135
8.477	0.298	0.318	-20.259	-6.499	-2.066	44.878	14.266
8.775	0.298	0.318	-20.259	-7.192	-2.286	44.990	14.301
9.073	0.017	0.018	-20.259	-7.559	-0.135	44.916	0.805
9.090	0.298	0.318	-20.259	-7.924	-2.519	45.013	14.308
9.388	0.298	0.318	-20.259	-8.616	-2.739	45.092	14.334
9.686	0.085	0.091	-20.259	-9.060	-0.824	45.137	4.103
9.772	0.298	0.316	-19.276	-9.100	-2.875	45.137	14.260
10.070	0.298	0.316	-19.276	-9.729	-3.073	45.237	14.291
10.368	0.298	0.316	-19.276	-10.357	-3.272	45.338	14.323
10.666	0.012	0.012	-19.276	-10.683	-0.131	45.380	0.558
10.678	0.298	0.314	-18.187	-10.459	-3.283	45.378	14.244
10.976	0.298	0.314	-18.187	-11.020	-3.459	45.474	14.274
11.274	0.201	0.212	-18.187	-11.490	-2.435	45.520	9.645
11.476	0.298	0.312	-16.816	-11.149	-3.473	45.437	14.155
11.774	0.298	0.312	-16.816	-11.631	-3.623	45.524	14.182

12.072	0.135	0.141	-16.816	-11.980	-1.684	45.601	6.411
12.207	0.298	0.310	-15.730	-11.603	-3.595	45.505	14.098
12.505	0.298	0.310	-15.730	-12.026	-3.726	45.475	14.089
12.803	0.121	0.126	-15.730	-12.323	-1.551	45.445	5.720
12.924	0.298	0.308	-14.647	-11.818	-3.643	45.411	13.997
13.222	0.298	0.308	-14.647	-12.185	-3.756	45.449	14.009
13.521	0.143	0.148	-14.647	-12.457	-1.842	45.478	6.724
13.664	0.298	0.307	-13.614	-11.891	-3.649	45.460	13.949
13.962	0.298	0.307	-13.614	-12.209	-3.746	45.666	14.012
14.260	0.173	0.178	-13.614	-12.460	-2.212	45.701	8.112
14.433	0.298	0.306	-12.690	-11.898	-3.637	45.640	13.951
14.731	0.298	0.306	-12.690	-12.175	-3.722	45.635	13.950
15.029	0.239	0.245	-12.690	-12.424	-3.043	45.587	11.167
15.268	0.298	0.304	-11.244	-11.295	-3.434	45.406	13.806
15.566	0.298	0.304	-11.244	-11.513	-3.500	45.391	13.801
15.864	0.046	0.046	-11.244	-11.638	-0.540	45.374	2.107
15.910	0.107	0.109	-11.244	-11.741	-1.278	45.379	4.940
16.017	0.298	0.302	-9.532	-10.291	-3.112	45.266	13.688
16.315	0.298	0.302	-9.532	-10.673	-3.227	45.315	13.703
16.613	0.121	0.123	-9.532	-10.941	-1.341	45.330	5.557
16.734	0.298	0.301	-7.637	-9.028	-2.716	45.188	13.596
17.032	0.298	0.301	-7.637	-9.311	-2.801	45.280	13.624
17.331	0.091	0.092	-7.637	-9.495	-0.872	45.359	4.165
17.422	0.298	0.300	-5.730	-7.291	-2.185	45.067	13.507
17.720	0.280	0.282	-5.730	-7.478	-2.106	45.034	12.684
18.000	0.143	0.143	-5.730	-7.636	-1.094	45.056	6.457
18.143	0.298	0.299	-3.749	-5.145	-1.538	44.720	13.365
18.441	0.298	0.299	-3.749	-5.315	-1.589	44.731	13.368
18.739	0.098	0.099	-3.749	-5.429	-0.535	44.732	4.408
18.837	0.298	0.298	-1.799	-2.663	-0.794	44.410	13.250
19.136	0.298	0.298	-1.799	-2.739	-0.817	44.415	13.252
19.434	0.138	0.138	-1.799	-2.794	-0.386	44.482	6.138
19.572	0.298	0.298	-0.035	-0.056	-0.017	44.107	13.153
19.870	0.290	0.290	-0.035	-0.057	-0.017	44.107	12.795
20.160	0.197	0.197	-0.035	-0.059	-0.012	44.106	8.690
20.357	0.298	0.298	1.403	2.394	0.714	43.875	13.088
20.655	0.298	0.298	1.403	2.472	0.738	43.912	13.099
20.953	0.298	0.298	1.403	2.551	0.761	43.936	13.106
21.252	0.010	0.010	1.403	2.592	0.026	43.941	0.439
21.262	0.008	0.008	3.650	6.734	0.056	43.693	0.366
21.270	0.298	0.299	3.650	6.744	2.015	43.752	13.074
21.568	0.182	0.182	3.650	6.756	1.231	43.759	7.971
21.750	0.266	0.266	3.650	6.827	1.818	43.791	11.665
22.016	0.298	0.300	6.563	12.435	3.733	43.606	13.090
22.314	0.298	0.300	6.563	12.666	3.802	43.674	13.110
22.612	0.105	0.106	6.563	12.823	1.353	43.744	4.616
22.717	0.298	0.303	9.908	19.346	5.857	43.665	13.219
23.015	0.298	0.303	9.908	19.633	5.943	43.901	13.290
23.314	0.053	0.054	9.908	19.802	1.061	44.040	2.359
23.366	0.298	0.306	13.175	26.109	7.997	44.275	13.560
23.664	0.298	0.306	13.175	26.408	8.088	44.574	13.652
23.963	0.107	0.110	13.175	26.611	2.933	44.683	4.924
24.070	0.003	0.003	13.175	26.666	0.070	44.712	0.117

24.073	0.298	0.311	16.377	32.730	10.173	45.122	14.025
24.371	0.298	0.311	16.377	33.179	10.313	45.497	14.141
24.669	0.057	0.060	16.377	33.446	1.997	45.685	2.727
24.726	0.298	0.316	19.459	39.092	12.364	46.199	14.612
25.024	0.298	0.316	19.459	39.504	12.494	46.744	14.784
25.323	0.077	0.082	19.459	39.763	3.261	47.145	3.866
25.400	0.032	0.034	19.459	39.807	1.339	47.200	1.588
25.432	0.278	0.300	22.016	43.895	13.176	48.014	14.412
25.710	0.298	0.322	22.016	43.363	13.948	48.627	15.642
26.008	0.186	0.201	22.016	42.721	8.570	49.082	9.846
26.194	0.256	0.280	23.927	44.911	12.569	49.844	13.950
26.450	0.298	0.326	23.927	44.054	14.373	50.102	16.346
26.748	0.298	0.326	23.927	43.136	14.073	50.505	16.477
27.046	0.056	0.061	23.927	42.592	2.587	50.956	3.094
27.102	0.298	0.331	25.662	44.233	14.634	50.664	16.762
27.400	0.298	0.331	25.662	43.183	14.287	50.512	16.712
27.698	0.184	0.204	25.662	42.334	8.631	50.625	10.321
27.882	0.248	0.280	27.752	43.843	12.281	50.385	14.113
28.130	0.298	0.337	27.752	42.719	14.395	50.512	17.021
28.428	0.184	0.208	27.752	41.719	8.665	50.539	10.497
28.612	0.298	0.344	29.994	42.719	14.709	50.504	17.390
28.910	0.298	0.344	29.994	41.291	14.218	49.827	17.157
29.208	0.091	0.105	29.994	40.360	4.241	49.821	5.235
29.299	0.298	0.352	32.172	40.976	14.436	49.623	17.483
29.598	0.298	0.352	32.172	39.353	13.865	49.152	17.317
29.896	0.124	0.147	32.172	38.205	5.602	48.955	7.179
30.020	0.298	0.363	34.759	38.422	13.946	48.932	17.762
30.318	0.298	0.363	34.759	36.559	13.270	48.542	17.620
30.616	0.167	0.203	34.759	35.107	7.130	48.542	9.859
30.783	0.298	0.372	36.734	34.367	12.788	48.431	18.021
31.081	0.298	0.372	36.734	32.315	12.025	48.037	17.875
31.380	0.291	0.363	36.734	30.287	11.007	47.673	17.325
31.671	0.298	0.380	38.373	28.628	10.890	47.175	17.944
31.969	0.298	0.380	38.373	26.416	10.048	46.502	17.688
32.267	0.298	0.380	38.373	24.204	9.207	46.037	17.511
32.566	0.298	0.380	38.373	21.991	8.365	45.404	17.271
32.864	0.100	0.127	38.373	20.516	2.606	45.209	5.742
32.963	0.298	0.385	39.160	19.124	7.355	44.889	17.264
33.262	0.298	0.385	39.160	16.834	6.474	44.619	17.160
33.560	0.298	0.385	39.160	14.544	5.594	44.461	17.100
33.858	0.298	0.385	39.160	12.254	4.713	44.326	17.048
34.156	0.298	0.385	39.160	9.964	3.832	44.104	16.962
34.454	0.298	0.385	39.160	7.674	2.951	43.969	16.910
34.753	0.298	0.385	39.160	5.384	2.071	43.972	16.912
35.051	0.298	0.385	39.160	3.094	1.190	44.028	16.933
35.349	0.254	0.327	39.160	0.974	0.319	44.063	14.419

LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
dx(m) : Larghezza concio
dl(m) : lunghezza base concio
alpha(°) : Angolo pendenza base concio
TauStress(kPa) : Sforzo di taglio su base concio

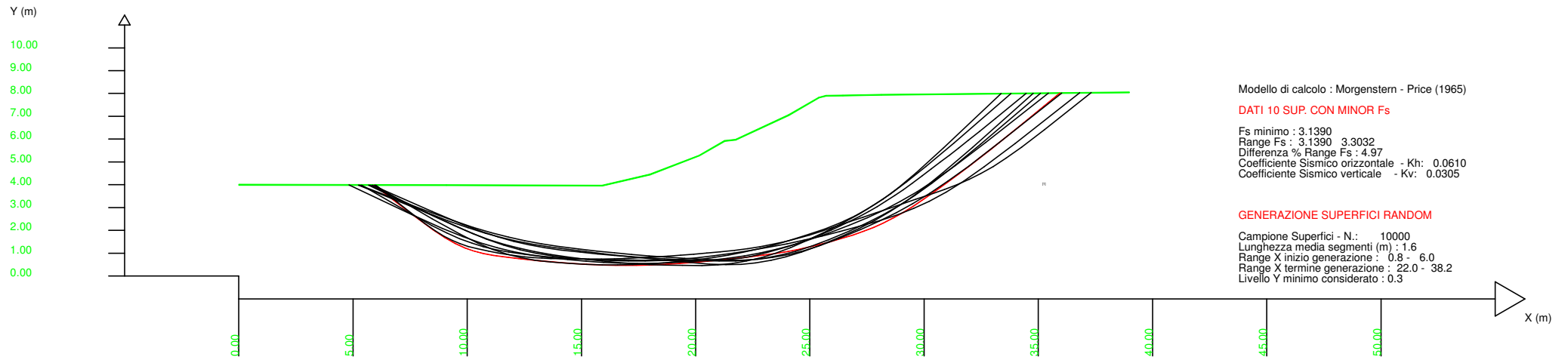
TauF (kN/m) : Forza di taglio su base concio
TauStrength(kPa) : Resistenza al taglio su base concio
TauS (kN/m) : Forza resistente al taglio su base concio

SSAP 5.0 (2020) - Slope Stability Analysis Program
 Software by Dr.Geol. L.Borselli - www.lorenzo-borselli.eu
 SSAP/DXF generator rel. 2.0 (2020)

Data : 10/11/2020
 Localita' : San_Sebastiano - S.Maria a Monte
 Descrizione : profilatura versante (Sez.1 Tav.4) lato sud stato modificato in condizioni sismiche non drenate
 [n] = N. strato o lente

Parametri Geotecnici degli strati # -----

N.	phi'	C'	Cu	Gamm	GammSat	sgci	GSI	mi	D
..	deg	kPa	kPa	kN/m3	kN/m3	MPa	..	..	..
1	0	0	44.10	19.50	20.00	0	0	0	0



Modello di calcolo : Morgenstern - Price (1965)

DATI 10 SUP. CON MINOR Fs

Fs minimo : 3.1390
 Range Fs : 3.1390 - 3.3032
 Differenza % Range Fs : 4.97
 Coefficiente Sismico orizzontale - Kh: 0.0610
 Coefficiente Sismico verticale - Kv: 0.0305

GENERAZIONE SUPERFICI RANDOM

Campione Superfici - N.: 10000
 Lunghezza media segmenti (m) : 1.6
 Range X inizio generazione : 0.8 - 6.0
 Range X termine generazione : 22.0 - 38.2
 Livello Y minimo considerato : 0.3

Report elaborazioni

SSAP 5.0 - Slope Stability Analysis Program (1991,2020)

WWW.SSAP.EU

Build No. 11716

BY

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** Gia' Ricercatore CNR-IRPI fino a Luglio 2011

Ultima Revisione struttura tabelle del report: 12 settembre 2020

File report: D:\ssp2010prove\lavori\smontemuro\PROFILI\verifiche\modificato sismico nd.txt

Data: 10/11/2020

Localita' : San.Sebastiano - S.Maria a Monte

Descrizione: profilatura versante (Sez.1 Tav.4) lato sud stato modificato in condizioni sismiche non drenate

Modello pendio: PROFILOPROND.mod

----- PARAMETRI DEL MODELLO DEL PENDIO -----

___ PARAMETRI GEOMETRICI - Coordinate X Y (in m) ___

SUP T.		SUP 2		SUP 3		SUP 4	
X	Y	X	Y	X	Y	X	Y
0.00	4.00	-	-	-	-	-	-
9.09	3.98	-	-	-	-	-	-
15.91	3.96	-	-	-	-	-	-
18.00	4.45	-	-	-	-	-	-
20.16	5.28	-	-	-	-	-	-
21.27	5.92	-	-	-	-	-	-
21.75	5.97	-	-	-	-	-	-
24.07	7.05	-	-	-	-	-	-
25.40	7.82	-	-	-	-	-	-
25.71	7.90	-	-	-	-	-	-
26.45	7.91	-	-	-	-	-	-
28.13	7.94	-	-	-	-	-	-
38.99	8.05	-	-	-	-	-	-

ASSENZA DI FALDA

----- PARAMETRI GEOMECCANICI -----

STRATO	1	fi`	C`	Cu	Gamm	Gamm_sat	STR_IDX	sgci	GSI	mi	D
		0.00	0.00	44.10	19.50	20.00	2.755	0.00	0.00	0.00	0.00

LEGENDA: fi` _____ Angolo di attrito interno efficace(in gradi)

C` _____ Coesione efficace (in Kpa)

Cu _____ Resistenza al taglio Non drenata (in Kpa)

Gamm _____ Peso di volume terreno fuori falda (in KN/m^3)
 Gamm_sat _____ Peso di volume terreno immerso (in KN/m^3)
 STR_IDX _____ Indice di resistenza (usato in solo in 'SNIFF SEARCH) (adimensionale)
 ---- SOLO Per AMMASSI ROCCIOSI FRATTURATI - Parametri Criterio di Rottura di Hoek (2002)-
 sigci _____ Resistenza Compressione Uniassiale Roccia Intatta (in MPa)
 GSI _____ Geological Strenght Index ammasso(adimensionale)
 mi _____ Indice litologico ammasso(adimensionale)
 D _____ Fattore di disturbo ammasso(adimensionale)
 Fattore di riduzione NTC2018: gammaPHI=1.25 e gammaC=1.25 - DISATTIVATO (solo per ROCCE)
 Uso CRITERIO DI ROTTURA Hoek et al.(2002,2006) - non-lineare - Generalizzato, secondo Lei et al.(2016)

----- INFORMAZIONI GENERAZIONE SUPERFICI RANDOM -----

*** PARAMETRI PER LA GENERAZIONE DELLE SUPERFICI
 METODO DI RICERCA: CONVEX RANDOM - Chen (1992)
 FILTRAGGIO SUPERFICI : ATTIVATO
 COORDINATE X1,X2,Y OSTACOLO : 0.00 0.00 0.00
 LUNGHEZZA MEDIA SEGMENTI (m): 1.6 (+/-) 50%
 INTERVALLO ASCISSE RANDOM STARTING POINT (Xmin .. Xmax): 0.78 6.00
 LIVELLO MINIMO CONSIDERATO (Ymin): 0.28
 INTERVALLO ASCISSE AMMESSO PER LA TERMINAZIONE (Xmin .. Xmax): 22.00 38.21

*** TOTALE SUPERFICI GENERATE : 10000

----- INFORMAZIONI PARAMETRI DI CALCOLO -----

METODO DI CALCOLO : MORGENSTERN - PRICE (Morgenstern & Price, 1965)
 METODO DI ESPLORAZIONE CAMPO VALORI (lambda0,Fs0) ADOTTATO : A (rapido)
 COEFFICIENTE SISMICO UTILIZZATO Kh : 0.0610
 COEFFICIENTE SISMICO UTILIZZATO Kv (assunto Positivo): 0.0305
 COEFFICIENTE c=Kv/Kh UTILIZZATO : 0.5000
 FORZA ORIZZONTALE ADDIZIONALE IN TESTA (kN/m): 0.00
 FORZA ORIZZONTALE ADDIZIONALE ALLA BASE (kN/m): 0.00

N.B. Le forze orizzontali addizionali in testa e alla base sono poste uguali a 0 durante le tutte le verifiche globali.
 I valori >0 impostati dall'utente sono utilizzati solo in caso di verifica singola

----- RISULTATO FINALE ELABORAZIONI -----

* DATI RELATIVI ALLE 10 SUPERFICI GENERATE CON MINOR Fs *

Fattore di sicurezza (FS)	3.1390 - Min. -	X	Y	Lambda=	0.1587
		5.92	3.99		
		7.67	2.64		
		8.49	2.04		
		9.03	1.68		
		9.46	1.43		
		9.90	1.24		
		10.28	1.10		
		10.70	0.99		
		11.16	0.90		
		11.72	0.83		
		12.24	0.77		

12.73	0.71
13.20	0.67
13.66	0.62
14.12	0.59
14.59	0.55
15.07	0.53
15.56	0.50
16.03	0.48
16.50	0.47
16.95	0.47
17.41	0.47
17.87	0.48
18.33	0.50
18.80	0.52
19.29	0.56
19.77	0.59
20.24	0.63
20.70	0.67
21.17	0.71
21.63	0.76
22.10	0.81
22.59	0.87
23.09	0.93
23.56	1.00
24.01	1.08
24.46	1.16
24.92	1.26
25.37	1.37
25.84	1.49
26.33	1.63
26.88	1.80
27.35	1.96
27.79	2.14
28.21	2.33
28.66	2.55
29.09	2.79
29.53	3.07
30.00	3.38
30.52	3.75
31.02	4.11
31.49	4.46
31.96	4.81
32.43	5.17
32.94	5.57
33.52	6.04
34.34	6.70
35.95	8.02

Fattore di sicurezza (FS)	3.2100	- N.2 --	X	Y	Lambda= 0.1539
			6.00	3.99	
			7.45	2.83	
			8.14	2.30	

8.60	1.98
8.98	1.75
9.35	1.56
9.68	1.42
10.05	1.30
10.44	1.20
10.93	1.09
11.35	1.01
11.75	0.94
12.13	0.89
12.52	0.84
12.89	0.81
13.27	0.79
13.66	0.77
14.08	0.76
14.49	0.75
14.89	0.75
15.29	0.74
15.68	0.73
16.08	0.72
16.48	0.72
16.87	0.71
17.27	0.70
17.66	0.70
18.06	0.69
18.45	0.69
18.85	0.68
19.25	0.68
19.65	0.67
20.07	0.67
20.50	0.67
20.89	0.68
21.26	0.70
21.62	0.74
22.00	0.79
22.37	0.86
22.75	0.94
23.15	1.04
23.60	1.16
24.01	1.29
24.41	1.41
24.78	1.55
25.17	1.69
25.55	1.85
25.94	2.02
26.34	2.20
26.78	2.41
27.19	2.62
27.57	2.83
27.95	3.04
28.33	3.28
28.71	3.52
29.09	3.79

29.48	4.07
29.91	4.38
30.31	4.69
30.71	5.00
31.11	5.30
31.50	5.61
31.94	5.96
32.43	6.35
33.12	6.91
34.47	8.00

Fattore di sicurezza (FS) 3.2368 - N.3 -- X Y Lambda= 0.1296

5.68	3.99
8.20	2.77
9.42	2.21
10.26	1.86
10.97	1.60
11.65	1.38
12.28	1.22
12.95	1.07
13.65	0.94
14.46	0.83
15.20	0.73
15.90	0.66
16.58	0.59
17.28	0.54
17.96	0.51
18.68	0.48
19.43	0.47
20.28	0.46
20.97	0.49
21.62	0.56
22.22	0.66
22.88	0.81
23.49	1.00
24.15	1.24
24.87	1.56
25.75	1.97
26.49	2.35
27.18	2.74
27.84	3.14
28.52	3.60
29.24	4.13
30.08	4.80
31.30	5.83
33.80	8.00

Fattore di sicurezza (FS) 3.2442 - N.4 -- X Y Lambda= 0.1554

5.75	3.99
8.57	2.62
9.92	2.00

10.83	1.63
11.59	1.36
12.33	1.15
13.01	1.00
13.75	0.88
14.53	0.79
15.46	0.72
16.29	0.68
17.06	0.66
17.79	0.66
18.55	0.69
19.28	0.73
20.03	0.80
20.81	0.89
21.68	1.01
22.48	1.14
23.25	1.27
24.00	1.42
24.77	1.58
25.52	1.75
26.31	1.95
27.14	2.17
28.05	2.43
28.82	2.68
29.55	2.97
30.22	3.28
30.96	3.67
31.72	4.15
32.63	4.78
33.98	5.81
36.81	8.03

Fattore di sicurezza (FS)	3.2526	- N.5	--	X	Y	Lambda=	0.1356
				5.84	3.99		
				8.47	2.83		
				9.74	2.29		
				10.60	1.96		
				11.34	1.71		
				12.05	1.52		
				12.70	1.37		
				13.40	1.24		
				14.12	1.14		
				14.94	1.05		
				15.71	0.97		
				16.45	0.90		
				17.18	0.85		
				17.90	0.80		
				18.63	0.75		
				19.38	0.71		
				20.17	0.68		
				21.03	0.66		
				21.74	0.66		

22.42	0.71
23.04	0.79
23.73	0.92
24.37	1.09
25.06	1.31
25.82	1.60
26.73	1.98
27.50	2.33
28.22	2.70
28.88	3.08
29.59	3.53
30.33	4.05
31.20	4.72
32.47	5.78
35.09	8.01

Fattore di sicurezza (FS) 3.2634 - N.6 -- X Y Lambda= 0.1488

5.95	3.99
8.48	2.50
9.67	1.84
10.46	1.45
11.11	1.17
11.76	0.96
12.34	0.81
12.97	0.70
13.65	0.62
14.49	0.56
15.23	0.52
15.92	0.49
16.58	0.49
17.25	0.50
17.90	0.53
18.58	0.57
19.29	0.63
20.06	0.72
20.76	0.81
21.42	0.92
22.06	1.04
22.73	1.19
23.38	1.35
24.07	1.55
24.80	1.78
25.64	2.06
26.33	2.33
26.97	2.63
27.55	2.95
28.20	3.37
28.86	3.87
29.66	4.54
30.86	5.62
33.37	7.99

Fattore di sicurezza (FS) 3.2652 - N.7 -- X Y Lambda= 0.1430

4.82	3.99
7.58	2.69
8.91	2.09
9.81	1.72
10.58	1.45
11.32	1.24
12.00	1.07
12.73	0.93
13.50	0.82
14.40	0.72
15.20	0.65
15.96	0.60
16.69	0.57
17.44	0.55
18.17	0.56
18.93	0.58
19.73	0.63
20.61	0.70
21.39	0.78
22.12	0.88
22.82	1.01
23.56	1.18
24.26	1.37
25.01	1.60
25.81	1.88
26.72	2.22
27.51	2.55
28.25	2.90
28.94	3.26
29.68	3.69
30.46	4.20
31.36	4.85
32.70	5.86
35.44	8.01

Fattore di sicurezza (FS) 3.2937 - N.8 -- X Y Lambda= 0.1680

5.38	3.99
7.46	2.77
8.45	2.22
9.11	1.88
9.67	1.64
10.22	1.44
10.71	1.29
11.25	1.16
11.82	1.06
12.50	0.96
13.11	0.89
13.68	0.83
14.22	0.79
14.78	0.76

15.32	0.74
15.87	0.74
16.44	0.75
17.06	0.78
17.64	0.81
18.22	0.84
18.78	0.87
19.35	0.91
19.92	0.96
20.49	1.01
21.08	1.06
21.71	1.13
22.27	1.20
22.82	1.29
23.35	1.39
23.90	1.51
24.43	1.64
24.98	1.80
25.54	1.97
26.15	2.18
26.74	2.38
27.33	2.58
27.91	2.78
28.47	2.97
29.06	3.17
29.65	3.37
30.26	3.57
30.89	3.79
31.44	4.00
31.97	4.24
32.48	4.49
33.02	4.80
33.59	5.17
34.27	5.65
35.26	6.41
37.31	8.03

Fattore di sicurezza (FS)	3.2997	- N.9 --	X	Y	Lambda= 0.1254
			5.24	3.99	
			7.86	2.93	
			9.14	2.43	
			10.03	2.12	
			10.79	1.88	
			11.51	1.69	
			12.18	1.53	
			12.89	1.39	
			13.62	1.27	
			14.43	1.17	
			15.20	1.07	
			15.95	0.98	
			16.69	0.89	
			17.42	0.82	

18.17	0.74
18.93	0.67
19.73	0.60
20.60	0.53
21.32	0.50
21.99	0.52
22.61	0.58
23.31	0.69
23.94	0.84
24.63	1.05
25.40	1.33
26.34	1.72
27.12	2.07
27.84	2.44
28.51	2.83
29.22	3.29
29.96	3.83
30.83	4.53
32.11	5.64
34.78	8.01

Fattore di sicurezza (FS) 3.3032 - N.10 -- X Y Lambda= 0.1337

5.29	3.99
8.01	2.94
9.34	2.45
10.26	2.14
11.06	1.90
11.81	1.71
12.52	1.55
13.25	1.41
14.02	1.30
14.87	1.19
15.67	1.10
16.44	1.02
17.20	0.94
17.96	0.88
18.73	0.82
19.51	0.78
20.34	0.73
21.24	0.70
22.00	0.70
22.71	0.74
23.36	0.82
24.09	0.95
24.75	1.12
25.48	1.35
26.27	1.64
27.22	2.04
28.03	2.40
28.79	2.78
29.50	3.17
30.24	3.62

31.03 4.15
 31.95 4.81
 33.28 5.85
 36.02 8.02

----- ANALISI DEFICIT DI RESISTENZA -----
 # DATI RELATIVI ALLE 10 SUPERFICI GENERATE CON MINOR Fs *
 # Analisi Deficit in riferimento a FS(progetto) = 1.100

Sup N.	FS	FTR (kN/m)	FTA (kN/m)	Bilancio (kN/m)	ESITO
1	3.139	1537.4	489.8	998.6	Surplus
2	3.210	1471.9	458.5	967.5	Surplus
3	3.237	1449.2	447.7	956.7	Surplus
4	3.244	1543.3	475.7	1020.0	Surplus
5	3.253	1485.7	456.8	983.2	Surplus
6	3.263	1424.5	436.5	944.3	Surplus
7	3.265	1536.0	470.4	1018.6	Surplus
8	3.294	1575.6	478.4	1049.4	Surplus
9	3.300	1505.8	456.4	1003.8	Surplus
10	3.303	1540.3	466.3	1027.4	Surplus

Esito analisi: SURPLUS di RESISTENZA!

Valore minimo di SURPLUS di RESISTENZA (kN/m): 944.3

Note: FTR --> Forza totale Resistente lungo la superficie di scivolamento
 FTA --> Forza totale Agente lungo la superficie di scivolamento

IMPORTANTE! : Il Deficit o il Surplus di resistenza viene espresso in kN per metro di LARGHEZZA rispetto al fronte della scarpata

 TABELLA PARAMETRI CONCI DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	alpha (°)	W (kN/m)	ru (-)	U (kPa)	phi ' (°)	(c', Cu) (kPa)
5.922	0.300	-37.60	0.70	0.00	0.00	0.00	44.10
6.222	0.300	-37.60	2.09	0.00	0.00	0.00	44.10
6.522	0.300	-37.60	3.48	0.00	0.00	0.00	44.10
6.822	0.300	-37.60	4.87	0.00	0.00	0.00	44.10
7.123	0.300	-37.60	6.26	0.00	0.00	0.00	44.10
7.423	0.251	-37.60	6.30	0.00	0.00	0.00	44.10
7.674	0.300	-36.40	8.78	0.00	0.00	0.00	44.10
7.974	0.300	-36.40	10.11	0.00	0.00	0.00	44.10
8.274	0.215	-36.40	8.07	0.00	0.00	0.00	44.10
8.489	0.300	-33.56	12.33	0.00	0.00	0.00	44.10
8.789	0.236	-33.56	10.52	0.00	0.00	0.00	44.10
9.025	0.065	-29.62	3.02	0.00	0.00	0.00	44.10
9.090	0.300	-29.62	14.60	0.00	0.00	0.00	44.10

9.390	0.071	-29.62	3.58	0.00	0.00	0.00	44.10
9.461	0.300	-24.23	15.76	0.00	0.00	0.00	44.10
9.761	0.137	-24.23	7.48	0.00	0.00	0.00	44.10
9.898	0.300	-19.72	16.86	0.00	0.00	0.00	44.10
10.198	0.081	-19.72	4.68	0.00	0.00	0.00	44.10
10.280	0.300	-14.78	17.59	0.00	0.00	0.00	44.10
10.580	0.121	-14.78	7.22	0.00	0.00	0.00	44.10
10.701	0.300	-10.54	18.18	0.00	0.00	0.00	44.10
11.001	0.155	-10.54	9.49	0.00	0.00	0.00	44.10
11.156	0.300	-7.41	18.63	0.00	0.00	0.00	44.10
11.456	0.269	-7.41	16.86	0.00	0.00	0.00	44.10
11.724	0.300	-6.92	19.06	0.00	0.00	0.00	44.10
12.024	0.216	-6.92	13.86	0.00	0.00	0.00	44.10
12.241	0.300	-6.36	19.42	0.00	0.00	0.00	44.10
12.541	0.185	-6.36	12.09	0.00	0.00	0.00	44.10
12.726	0.300	-5.77	19.73	0.00	0.00	0.00	44.10
13.026	0.170	-5.77	11.23	0.00	0.00	0.00	44.10
13.196	0.300	-5.16	20.00	0.00	0.00	0.00	44.10
13.496	0.164	-5.16	11.01	0.00	0.00	0.00	44.10
13.660	0.300	-4.58	20.23	0.00	0.00	0.00	44.10
13.961	0.161	-4.58	10.89	0.00	0.00	0.00	44.10
14.121	0.300	-4.00	20.44	0.00	0.00	0.00	44.10
14.422	0.167	-4.00	11.43	0.00	0.00	0.00	44.10
14.589	0.300	-3.43	20.62	0.00	0.00	0.00	44.10
14.889	0.177	-3.43	12.18	0.00	0.00	0.00	44.10
15.065	0.300	-2.90	20.77	0.00	0.00	0.00	44.10
15.366	0.196	-2.90	13.65	0.00	0.00	0.00	44.10
15.562	0.300	-2.13	20.90	0.00	0.00	0.00	44.10
15.862	0.048	-2.13	3.34	0.00	0.00	0.00	44.10
15.910	0.124	-2.13	8.68	0.00	0.00	0.00	44.10
16.034	0.300	-1.30	21.38	0.00	0.00	0.00	44.10
16.334	0.162	-1.30	11.74	0.00	0.00	0.00	44.10
16.496	0.300	-0.44	22.08	0.00	0.00	0.00	44.10
16.796	0.154	-0.44	11.49	0.00	0.00	0.00	44.10
16.950	0.300	0.43	22.73	0.00	0.00	0.00	44.10
17.250	0.162	0.43	12.47	0.00	0.00	0.00	44.10
17.413	0.300	1.29	23.35	0.00	0.00	0.00	44.10
17.713	0.154	1.29	12.09	0.00	0.00	0.00	44.10
17.866	0.134	2.15	10.61	0.00	0.00	0.00	44.10
18.000	0.300	2.15	24.21	0.00	0.00	0.00	44.10
18.300	0.027	2.15	2.25	0.00	0.00	0.00	44.10
18.328	0.300	2.98	24.89	0.00	0.00	0.00	44.10
18.628	0.170	2.98	14.35	0.00	0.00	0.00	44.10
18.798	0.300	3.75	25.81	0.00	0.00	0.00	44.10
19.098	0.193	3.75	16.93	0.00	0.00	0.00	44.10
19.291	0.300	4.15	26.76	0.00	0.00	0.00	44.10
19.591	0.177	4.15	16.09	0.00	0.00	0.00	44.10
19.769	0.300	4.57	27.65	0.00	0.00	0.00	44.10
20.069	0.091	4.57	8.51	0.00	0.00	0.00	44.10
20.160	0.078	4.57	7.30	0.00	0.00	0.00	44.10
20.238	0.300	5.00	28.77	0.00	0.00	0.00	44.10
20.538	0.164	5.00	16.09	0.00	0.00	0.00	44.10
20.702	0.300	5.43	30.13	0.00	0.00	0.00	44.10

21.002	0.165	5.43	16.96	0.00	0.00	0.00	44.10
21.167	0.103	5.87	10.68	0.00	0.00	0.00	44.10
21.270	0.300	5.87	31.34	0.00	0.00	0.00	44.10
21.570	0.062	5.87	6.52	0.00	0.00	0.00	44.10
21.633	0.117	6.29	12.26	0.00	0.00	0.00	44.10
21.750	0.300	6.29	31.66	0.00	0.00	0.00	44.10
22.050	0.054	6.29	5.76	0.00	0.00	0.00	44.10
22.104	0.300	6.71	32.41	0.00	0.00	0.00	44.10
22.404	0.183	6.71	20.03	0.00	0.00	0.00	44.10
22.587	0.300	7.10	33.42	0.00	0.00	0.00	44.10
22.887	0.202	7.10	22.88	0.00	0.00	0.00	44.10
23.089	0.300	8.24	34.43	0.00	0.00	0.00	44.10
23.390	0.167	8.24	19.46	0.00	0.00	0.00	44.10
23.557	0.300	9.49	35.32	0.00	0.00	0.00	44.10
23.857	0.156	9.49	18.57	0.00	0.00	0.00	44.10
24.013	0.057	10.80	6.81	0.00	0.00	0.00	44.10
24.070	0.300	10.80	36.31	0.00	0.00	0.00	44.10
24.370	0.087	10.80	10.71	0.00	0.00	0.00	44.10
24.458	0.300	12.10	37.20	0.00	0.00	0.00	44.10
24.758	0.160	12.10	20.04	0.00	0.00	0.00	44.10
24.917	0.300	13.43	38.19	0.00	0.00	0.00	44.10
25.217	0.150	13.43	19.35	0.00	0.00	0.00	44.10
25.368	0.032	14.72	4.18	0.00	0.00	0.00	44.10
25.400	0.300	14.72	38.86	0.00	0.00	0.00	44.10
25.700	0.010	14.72	1.28	0.00	0.00	0.00	44.10
25.710	0.126	14.72	16.24	0.00	0.00	0.00	44.10
25.836	0.300	15.91	38.42	0.00	0.00	0.00	44.10
26.136	0.193	15.91	24.42	0.00	0.00	0.00	44.10
26.329	0.121	16.92	15.26	0.00	0.00	0.00	44.10
26.450	0.300	16.92	37.39	0.00	0.00	0.00	44.10
26.750	0.126	16.92	15.53	0.00	0.00	0.00	44.10
26.876	0.300	19.01	36.62	0.00	0.00	0.00	44.10
27.176	0.171	19.01	20.55	0.00	0.00	0.00	44.10
27.347	0.300	21.54	35.64	0.00	0.00	0.00	44.10
27.647	0.146	21.54	17.08	0.00	0.00	0.00	44.10
27.793	0.300	24.29	34.58	0.00	0.00	0.00	44.10
28.093	0.037	24.29	4.21	0.00	0.00	0.00	44.10
28.130	0.083	24.29	9.41	0.00	0.00	0.00	44.10
28.213	0.300	26.89	33.42	0.00	0.00	0.00	44.10
28.513	0.151	26.89	16.42	0.00	0.00	0.00	44.10
28.664	0.300	29.37	32.02	0.00	0.00	0.00	44.10
28.964	0.122	29.37	12.70	0.00	0.00	0.00	44.10
29.086	0.300	31.75	30.56	0.00	0.00	0.00	44.10
29.386	0.144	31.75	14.27	0.00	0.00	0.00	44.10
29.530	0.300	33.77	28.88	0.00	0.00	0.00	44.10
29.830	0.166	33.77	15.44	0.00	0.00	0.00	44.10
29.996	0.300	35.38	27.00	0.00	0.00	0.00	44.10
30.296	0.226	35.38	19.52	0.00	0.00	0.00	44.10
30.522	0.300	35.86	24.76	0.00	0.00	0.00	44.10
30.822	0.195	35.86	15.41	0.00	0.00	0.00	44.10
31.017	0.300	36.37	22.62	0.00	0.00	0.00	44.10
31.318	0.177	36.37	12.72	0.00	0.00	0.00	44.10
31.495	0.300	36.90	20.52	0.00	0.00	0.00	44.10

31.795	0.167	36.90	10.81	0.00	0.00	0.00	44.10
31.961	0.300	37.43	18.42	0.00	0.00	0.00	44.10
32.262	0.165	37.43	9.54	0.00	0.00	0.00	44.10
32.427	0.300	38.10	16.28	0.00	0.00	0.00	44.10
32.727	0.217	38.10	10.90	0.00	0.00	0.00	44.10
32.944	0.300	38.62	13.86	0.00	0.00	0.00	44.10
33.244	0.280	38.62	11.62	0.00	0.00	0.00	44.10
33.523	0.300	39.11	11.08	0.00	0.00	0.00	44.10
33.824	0.300	39.11	9.63	0.00	0.00	0.00	44.10
34.124	0.220	39.11	6.14	0.00	0.00	0.00	44.10
34.344	0.300	39.37	7.10	0.00	0.00	0.00	44.10
34.644	0.300	39.37	5.64	0.00	0.00	0.00	44.10
34.944	0.300	39.37	4.17	0.00	0.00	0.00	44.10
35.244	0.300	39.37	2.70	0.00	0.00	0.00	44.10
35.545	0.300	39.37	1.23	0.00	0.00	0.00	44.10
35.845	0.102	39.37	0.09	0.00	0.00	0.00	44.10

 LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
 dx(m) : Larghezza concio
 alpha(°) : Angolo pendenza base concio
 W(kN/m) : Forza peso concio
 ru(-) : Coefficiente locale pressione interstiziale
 U(kPa) : Pressione totale dei pori base concio
 phi'(°) : Angolo di attrito efficace base concio
 c'/Cu (kPa) : Coesione efficace o Resistenza al taglio in condizioni non drenate

TABELLA DIAGRAMMA DELLE FORZE DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	ht (m)	yt (m)	yt' (--)	E(x) (kN/m)	T(x) (kN/m)	E' (kN)	rho(x) (--)	FS_qFEM (--)	FS_srmFEM (--)
5.922	0.000	3.987	-0.575	0.0000000000E+000	0.0000000000E+000	1.49409144430E+001	0.105	3.775	6.138
6.222	0.058	3.814	-0.575	6.9100376331E+000	6.5468436918E-003	3.1102794444E+001	0.105	3.775	6.138
6.522	0.117	3.642	-0.582	1.8671083226E+001	7.1789568451E-002	3.8031961702E+001	0.105	2.036	3.305
6.822	0.171	3.464	-0.568	2.9740716833E+001	3.2836530530E-001	3.7580920168E+001	0.105	1.621	2.627
7.123	0.238	3.300	-0.546	4.1231001095E+001	8.3968894319E-001	4.0841337821E+001	0.105	1.484	2.392
7.423	0.305	3.137	-0.557	5.4257871357E+001	1.6533784303E+000	4.7304383187E+001	0.105	1.441	2.302
7.674	0.355	2.993	-0.554	6.6949401089E+001	2.5820638103E+000	5.0134393948E+001	0.137	1.454	2.287
7.974	0.415	2.831	-0.514	8.1841559062E+001	3.6999645056E+000	4.8083542318E+001	0.168	1.482	2.277
8.274	0.489	2.684	-0.470	9.5814068604E+001	4.7876804870E+000	4.5633454440E+001	0.191	1.534	2.290
8.489	0.552	2.589	-0.419	1.0549897324E+002	5.5836314754E+000	4.4094070712E+001	0.204	1.598	2.321
8.789	0.631	2.469	-0.385	1.1836541298E+002	6.6838835551E+000	4.2069042015E+001	0.222	1.722	2.381
9.025	0.702	2.382	-0.353	1.2813290285E+002	7.5491728731E+000	3.7141913829E+001	0.234	1.854	2.435
9.090	0.719	2.363	-0.309	1.3046468526E+002	7.7593703060E+000	3.6245245283E+001	0.236	1.892	2.449
9.390	0.796	2.270	-0.304	1.4174202849E+002	8.7979946383E+000	3.6080198274E+001	0.250	2.116	2.516
9.461	0.817	2.250	-0.260	1.4426458367E+002	9.0354483840E+000	3.5284337478E+001	0.253	2.181	2.531
9.761	0.875	2.173	-0.247	1.5428750019E+002	9.9998328834E+000	3.2052943079E+001	0.266	2.496	2.588
9.898	0.905	2.142	-0.219	1.5860597061E+002	1.0426016669E+001	3.1151766024E+001	0.271	2.674	2.611
10.198	0.949	2.078	-0.210	1.6776732701E+002	1.1360335007E+001	2.9497622882E+001	0.284	3.165	2.650

10.280	0.962	2.062	-0.182	1.7014311208E+002	1.1611403423E+001	2.8986036874E+001	0.287	3.331	2.657
10.580	0.988	2.008	-0.175	1.7858406025E+002	1.2533754439E+001	2.7441827474E+001	0.302	4.076	2.669
10.701	0.999	1.988	-0.158	1.8187055073E+002	1.2902728137E+001	2.7149934364E+001	0.307	4.469	2.670
11.001	1.009	1.942	-0.144	1.9000650541E+002	1.3857482576E+001	2.4757019123E+001	0.324	5.736	2.652
11.156	1.018	1.922	-0.120	1.9364484197E+002	1.4301619225E+001	2.3673264993E+001	0.332	6.540	2.635
11.456	1.022	1.887	-0.111	2.0082359352E+002	1.5202946222E+001	2.3280953950E+001	0.348	8.513	2.587
11.724	1.029	1.859	-0.097	2.0692236794E+002	1.5984239132E+001	2.2233854999E+001	0.362	10.878	2.536
12.024	1.038	1.832	-0.086	2.1343553221E+002	1.6822935350E+001	2.0547035823E+001	0.377	14.215	2.473
12.241	1.047	1.815	-0.077	2.1769907760E+002	1.7366311729E+001	1.9640410176E+001	0.386	16.930	2.431
12.541	1.058	1.792	-0.071	2.2356239616E+002	1.8100254844E+001	1.8045944785E+001	0.398	21.564	2.375
12.726	1.067	1.780	-0.063	2.2673800147E+002	1.8487490582E+001	1.7231984545E+001	0.404	24.513	2.346
13.026	1.079	1.762	-0.060	2.3196153165E+002	1.9114761197E+001	1.6217845889E+001	0.414	30.139	2.303
13.196	1.087	1.752	-0.054	2.3460010927E+002	1.9424671980E+001	1.5641215165E+001	0.419	33.493	2.283
13.496	1.098	1.736	-0.052	2.3934445429E+002	1.9978912275E+001	1.5537465915E+001	0.427	39.424	2.250
13.660	1.104	1.728	-0.049	2.4187318884E+002	2.0273768823E+001	1.5355371324E+001	0.432	42.139	2.234
13.961	1.114	1.714	-0.047	2.4646303490E+002	2.0811052084E+001	1.5512246716E+001	0.440	43.374	2.209
14.121	1.119	1.706	-0.045	2.4897544087E+002	2.1109360473E+001	1.5823420289E+001	0.445	41.310	2.198
14.422	1.127	1.693	-0.042	2.5383309181E+002	2.1697343707E+001	1.5585144778E+001	0.454	33.975	2.180
14.589	1.132	1.687	-0.033	2.5638145730E+002	2.2012167956E+001	1.5088130264E+001	0.460	29.823	2.174
14.889	1.141	1.677	-0.027	2.6082194537E+002	2.2577612757E+001	1.4161507250E+001	0.469	23.327	2.168
15.065	1.148	1.674	-0.015	2.6325721271E+002	2.2899522590E+001	1.3622696663E+001	0.474	20.311	2.169
15.366	1.160	1.670	-0.006	2.6726111679E+002	2.3456734144E+001	1.2659206759E+001	0.484	16.370	2.178
15.562	1.170	1.671	0.009	2.6966108186E+002	2.3812451060E+001	1.1980598082E+001	0.490	14.482	2.189
15.862	1.186	1.675	0.016	2.7315016899E+002	2.4367746518E+001	1.1120267872E+001	0.500	12.420	2.216
15.910	1.189	1.676	0.032	2.7367842027E+002	2.4458552412E+001	1.0913115794E+001	0.501	12.159	2.221
16.034	1.197	1.680	0.047	2.7498945221E+002	2.4692134274E+001	1.0723344645E+001	0.501	11.550	2.238
16.334	1.220	1.696	0.056	2.7830874624E+002	2.5339960430E+001	1.0541115201E+001	0.503	10.415	2.293
16.496	1.234	1.706	0.077	2.7997153446E+002	2.5692793508E+001	1.0328963967E+001	0.504	9.982	2.328
16.796	1.262	1.732	0.088	2.8310919859E+002	2.6424673014E+001	9.9989013393E+000	0.509	9.460	2.415
16.950	1.278	1.746	0.104	2.8461237980E+002	2.6805710931E+001	9.5802135430E+000	0.511	9.316	2.466
17.250	1.308	1.779	0.112	2.8737931944E+002	2.7566595288E+001	8.8500669057E+000	0.516	9.223	2.583
17.413	1.326	1.798	0.127	2.8878392957E+002	2.7986523370E+001	8.4370025920E+000	0.519	9.266	2.656
17.713	1.359	1.838	0.132	2.9119769682E+002	2.8774193167E+001	7.1730246733E+000	0.525	9.434	2.813
17.866	1.376	1.858	0.135	2.9223056484E+002	2.9152866182E+001	6.1862913901E+000	0.527	9.583	2.900
18.000	1.389	1.876	0.144	2.9299452713E+002	2.9468061853E+001	5.6187706044E+000	0.529	9.718	2.979
18.300	1.422	1.921	0.150	2.9461694971E+002	3.0194786798E+001	5.3184186111E+000	0.529	10.017	3.187
18.328	1.426	1.926	0.188	2.9476270203E+002	3.0270943379E+001	5.2645597422E+000	0.529	10.044	3.211
18.628	1.467	1.982	0.193	2.9619216995E+002	3.1119554496E+001	4.4109090438E+000	0.530	10.224	3.515
18.798	1.492	2.016	0.209	2.9690773960E+002	3.1606213014E+001	3.9837896669E+000	0.532	10.270	3.719
19.098	1.537	2.081	0.217	2.9798251340E+002	3.2485115962E+001	3.2068541855E+000	0.534	10.184	4.161
19.291	1.567	2.123	0.242	2.9855571080E+002	3.3047204128E+001	2.7451883174E+000	0.536	10.041	4.500
19.591	1.621	2.200	0.252	2.9927669086E+002	3.3982987016E+001	1.9934061512E+000	0.540	9.674	5.187
19.769	1.653	2.244	0.259	2.9958756850E+002	3.4500066899E+001	1.4282165116E+000	0.541	9.433	5.653
20.069	1.708	2.324	0.264	2.9985198139E+002	3.5376669523E+001	6.6767415452E-001	0.544	8.946	6.575
20.160	1.725	2.347	0.248	2.9990696064E+002	3.5629850328E+001	2.7763264045E-001	0.545	8.807	6.890
20.238	1.737	2.366	0.251	2.9990699493E+002	3.5813791377E+001	-9.4890865231E-002	0.543	8.695	7.116
20.538	1.787	2.442	0.252	2.9976800716E+002	3.6550090223E+001	-7.8447672023E-001	0.537	8.231	8.074
20.702	1.813	2.483	0.244	2.9961058023E+002	3.6916424359E+001	-1.1181417287E+000	0.534	7.996	8.556
21.002	1.857	2.555	0.240	2.9918812058E+002	3.7543970875E+001	-1.6841200568E+000	0.527	7.589	9.312
21.167	1.880	2.594	0.229	2.9888472433E+002	3.7860905710E+001	-2.0066169039E+000	0.524	7.378	9.597
21.270	1.893	2.617	0.227	2.9866757916E+002	3.8039081540E+001	-2.2182643942E+000	0.521	7.254	9.687
21.570	1.930	2.686	0.230	2.9790908975E+002	3.8566484731E+001	-2.9373476412E+000	0.528	6.878	9.741
21.633	1.939	2.700	0.231	2.9772041487E+002	3.8673560086E+001	-3.1097974188E+000	0.530	6.798	9.690

21.750	1.953	2.727	0.245	2.9733598844E+002	3.8858163488E+001	-3.4523717439E+000	0.532	6.649	9.509
22.050	1.995	2.803	0.250	2.9616267273E+002	3.9350176543E+001	-4.3117734918E+000	0.528	6.244	8.845
22.104	2.002	2.816	0.273	2.9592607052E+002	3.9427965293E+001	-4.5897614907E+000	0.527	6.172	8.685
22.404	2.051	2.899	0.283	2.9420525479E+002	3.9870116728E+001	-6.2507502023E+000	0.523	5.710	7.588
22.587	2.082	2.952	0.316	2.9300635397E+002	4.0124534099E+001	-7.2132671945E+000	0.520	5.433	6.950
22.887	2.144	3.052	0.339	2.9052175961E+002	4.0535908504E+001	-9.0419109938E+000	0.516	4.949	5.932
23.089	2.190	3.123	0.349	2.8858805485E+002	4.0780610154E+001	-9.8800262089E+000	0.513	4.640	5.354
23.390	2.251	3.227	0.352	2.8547872187E+002	4.1062693803E+001	-1.1292683862E+001	0.508	4.233	4.672
23.557	2.287	3.287	0.358	2.8350036066E+002	4.1170460594E+001	-1.2328651839E+001	0.504	4.023	4.362
23.857	2.344	3.395	0.365	2.7952276720E+002	4.1237252259E+001	-1.5001077273E+001	0.497	3.686	3.918
24.013	2.377	3.454	0.366	2.7704119204E+002	4.1196334887E+001	-1.6051918043E+001	0.493	3.522	3.727
24.070	2.385	3.473	0.344	2.7612491756E+002	4.1166551493E+001	-1.6122774267E+001	0.491	3.469	3.668
24.370	2.432	3.576	0.346	2.7125541847E+002	4.0970803552E+001	-1.6432479581E+001	0.480	3.219	3.400
24.458	2.445	3.607	0.346	2.6981329111E+002	4.0893603860E+001	-1.6989780286E+001	0.476	3.156	3.337
24.758	2.485	3.711	0.334	2.6420230143E+002	4.0483953909E+001	-1.8511784053E+001	0.463	2.954	3.148
24.917	2.500	3.760	0.306	2.6126440391E+002	4.0233739149E+001	-1.9103218415E+001	0.456	2.865	3.070
25.217	2.520	3.851	0.294	2.5514191347E+002	3.9598409245E+001	-2.0179413113E+001	0.442	2.716	2.947
25.368	2.525	3.893	0.274	2.5212646669E+002	3.9250097401E+001	-2.1166065133E+001	0.434	2.653	2.898
25.400	2.525	3.901	0.253	2.5143465915E+002	3.9164353325E+001	-2.1455155724E+001	0.433	2.640	2.888
25.700	2.522	3.977	0.251	2.4484638487E+002	3.8266841138E+001	-2.2722278535E+001	0.423	2.532	2.815
25.710	2.522	3.979	0.227	2.4462234846E+002	3.8235294693E+001	-2.2726273731E+001	0.422	2.529	2.813
25.836	2.517	4.007	0.210	2.4179898610E+002	3.7810711123E+001	-2.2958885541E+001	0.420	2.489	2.789
26.136	2.492	4.069	0.202	2.3454588838E+002	3.6591955904E+001	-2.5611795114E+001	0.411	2.405	2.752
26.329	2.476	4.107	0.198	2.2942882257E+002	3.5673078557E+001	-2.8782832952E+001	0.405	2.354	2.735
26.450	2.463	4.131	0.199	2.2576606396E+002	3.4970586011E+001	-3.0631666980E+001	0.399	2.323	2.731
26.750	2.431	4.191	0.199	2.1624636148E+002	3.3110606650E+001	-3.2880667678E+001	0.383	2.248	2.726
26.876	2.418	4.215	0.203	2.1204565141E+002	3.2271748606E+001	-3.4046823489E+001	0.375	2.218	2.729
27.176	2.376	4.277	0.207	2.0134136656E+002	3.0128623758E+001	-3.6430102363E+001	0.356	2.149	2.742
27.347	2.353	4.313	0.207	1.9505216306E+002	2.8877856414E+001	-3.6563599679E+001	0.345	2.114	2.755
27.647	2.296	4.374	0.205	1.8423730957E+002	2.6754580864E+001	-3.5130838616E+001	0.325	2.061	2.785
27.793	2.268	4.404	0.205	1.7917579121E+002	2.5795082551E+001	-3.4677543262E+001	0.317	2.041	2.802
28.093	2.195	4.466	0.207	1.6877690857E+002	2.3867750408E+001	-3.4484234705E+001	0.300	2.007	2.842
28.130	2.186	4.474	0.226	1.6750108179E+002	2.3636230236E+001	-3.5506383922E+001	0.298	2.003	2.847
28.213	2.168	4.493	0.228	1.6435679325E+002	2.3076123943E+001	-3.7372837818E+001	0.293	1.995	2.860
28.513	2.083	4.561	0.232	1.5365136516E+002	2.1226046271E+001	-3.6965156573E+001	0.276	1.975	2.907
28.664	2.044	4.598	0.254	1.4798848269E+002	2.0265617573E+001	-3.7845473198E+001	0.268	1.967	2.934
28.964	1.952	4.676	0.268	1.3649201116E+002	1.8372379320E+001	-4.0601606340E+001	0.250	1.961	2.990
29.086	1.919	4.711	0.301	1.3143789476E+002	1.7551951757E+001	-4.1628722623E+001	0.242	1.961	3.016
29.386	1.825	4.803	0.315	1.1887270821E+002	1.5546704924E+001	-4.3685138333E+001	0.222	1.969	3.083
29.530	1.785	4.851	0.356	1.1245486836E+002	1.4533002840E+001	-4.4970438377E+001	0.212	1.975	3.119
29.830	1.694	4.961	0.376	9.8699933038E+001	1.2402192636E+001	-4.7172917965E+001	0.188	1.999	3.201
29.996	1.648	5.026	0.390	9.0757693540E+001	1.1190205590E+001	-4.6066958936E+001	0.174	2.015	3.251
30.296	1.551	5.142	0.395	7.7935831504E+001	9.3111883951E+000	-4.2558576488E+001	0.152	2.053	3.337
30.522	1.482	5.234	0.418	6.8330466222E+001	7.9458738361E+000	-4.1833698060E+001	0.134	2.086	3.406
30.822	1.393	5.362	0.423	5.6014706701E+001	6.2807387819E+000	-3.8649194419E+001	0.112	2.134	3.498
31.017	1.334	5.443	0.428	4.8775033818E+001	5.3537534851E+000	-3.6641095497E+001	0.105	2.165	3.555
31.318	1.243	5.574	0.428	3.7989097904E+001	4.0456202491E+000	-3.3050624252E+001	0.105	2.210	3.637
31.495	1.187	5.648	0.426	3.2439634049E+001	3.4202080085E+000	-3.0851569182E+001	0.105	2.232	3.675
31.795	1.091	5.778	0.420	2.3432917251E+001	2.4648092780E+000	-2.6940582500E+001	0.105	2.263	3.730
31.961	1.032	5.844	0.421	1.9228958468E+001	2.0528577053E+000	-2.5030060292E+001	0.105	2.273	3.749
32.262	0.933	5.974	0.442	1.1829023166E+001	1.3788943939E+000	-2.3490391208E+001	0.105	2.281	3.765
32.427	0.882	6.049	0.471	8.0589966551E+000	1.0644226504E+000	-2.2216788123E+001	0.105	2.278	3.762
32.727	0.790	6.193	0.485	1.7367927855E+000	5.8271997727E-001	-1.9451548661E+001	0.105	2.261	3.736

32.944	0.727	6.300	0.508	-2.2319995375E+000	3.1305973212E-001	-1.7361727812E+001	0.105	2.240	3.702
33.244	0.643	6.456	0.523	-7.0594798624E+000	2.1250820951E-002	-1.4155058939E+001	0.105	2.204	3.644
33.523	0.567	6.603	0.545	-1.0515182799E+001	-1.5280939974E-001	-1.0973258089E+001	0.105	2.168	3.586
33.824	0.492	6.772	0.560	-1.3362500792E+001	-2.7166874041E-001	-7.4599672720E+000	0.105	2.142	3.543
34.124	0.415	6.940	0.560	-1.4993419314E+001	-3.1494861999E-001	-5.3051458122E+000	0.105	2.124	3.512
34.344	0.360	7.064	0.553	-1.6140803313E+001	-3.2814148181E-001	-3.2774566648E+000	0.105	2.108	3.485
34.644	0.278	7.228	0.562	-1.6333481023E+001	-2.7599602659E-001	1.7665509682E+000	0.105	2.108	3.484
34.944	0.205	7.401	0.602	-1.5080338466E+001	-1.8135962828E-001	6.7518868781E+000	0.105	2.151	3.556
35.244	0.147	7.589	0.617	-1.2280306892E+001	-8.3251554601E-002	1.1702013992E+001	0.105	2.337	3.865
35.545	0.083	7.772	0.611	-8.0555909773E+000	-2.8452492106E-002	1.6576738290E+001	0.105	3.519	5.820
35.845	0.021	7.956	0.611	-2.3292505399E+000	-4.4194647372E-003	2.1808293680E+001	0.105	18.430	30.431

 LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
 ht(m) : Altezza linea di thrust da nodo sinistro base concio
 yt(m) : coordinata Y linea di trust
 yt'(-) : gradiente pendenza locale linea di trust
 E(x) (kN/m) : Forza Normale interconcio
 T(x) (kN/m) : Forza Tangenziale interconcio
 E' (kN) : derivata Forza normale interconcio
 Rho(x) (-) : fattore mobilizzazione resistenza al taglio verticale interconcio ZhU et al.(2003)
 FS_qFEM(x) (-) : fattore di sicurezza locale stimato (locale in X) by qFEM
 FS_srmFEM(x) (-) : fattore di sicurezza locale stimato (locale in X) by SRM Procedure

TABELLA SFORZI DI TAGLIO DISTRIBUITI LUNGO SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	dl (m)	alpha (°)	TauStress (kPa)	TauF (kN/m)	TauStrength (kPa)	TauS (kN/m)
5.922	0.300	0.379	-37.603	-1.031	-0.391	44.133	16.720
6.222	0.300	0.379	-37.603	-3.093	-1.172	44.430	16.833
6.522	0.300	0.379	-37.603	-5.155	-1.953	45.397	17.199
6.822	0.300	0.379	-37.603	-7.217	-2.734	46.685	17.687
7.123	0.300	0.379	-37.603	-9.279	-3.515	48.214	18.266
7.423	0.251	0.317	-37.603	-11.172	-3.539	49.715	15.749
7.674	0.300	0.373	-36.404	-12.816	-4.780	49.684	18.529
7.974	0.300	0.373	-36.404	-14.759	-5.504	49.534	18.472
8.274	0.215	0.268	-36.404	-16.427	-4.395	49.642	13.282
8.489	0.300	0.360	-33.561	-17.183	-6.189	49.401	17.794
8.789	0.236	0.283	-33.561	-18.672	-5.281	49.409	13.975
9.025	0.065	0.075	-29.615	-17.861	-1.332	48.471	3.616
9.090	0.300	0.345	-29.615	-18.657	-6.441	48.766	16.837
9.390	0.071	0.081	-29.615	-19.464	-1.581	48.636	3.950
9.461	0.300	0.329	-24.232	-16.987	-5.591	47.875	15.758
9.761	0.137	0.151	-24.232	-17.623	-2.654	47.745	7.192
9.898	0.300	0.319	-19.721	-14.803	-4.720	47.204	15.051
10.198	0.081	0.086	-19.721	-15.162	-1.310	47.179	4.075
10.280	0.300	0.310	-14.782	-11.114	-3.450	46.480	14.428
10.580	0.121	0.125	-14.782	-11.323	-1.417	46.462	5.813
10.701	0.300	0.305	-10.540	-7.321	-2.235	45.896	14.012

11.001	0.155	0.157	-10.540	-7.422	-1.167	45.723	7.186
11.156	0.300	0.303	-7.405	-4.210	-1.274	45.305	13.713
11.456	0.269	0.271	-7.405	-4.259	-1.153	45.267	12.258
11.724	0.300	0.302	-6.920	-3.777	-1.142	45.149	13.651
12.024	0.216	0.218	-6.920	-3.814	-0.831	45.043	9.812
12.241	0.300	0.302	-6.361	-3.226	-0.974	44.945	13.574
12.541	0.185	0.187	-6.361	-3.253	-0.607	44.822	8.362
12.726	0.300	0.302	-5.775	-2.611	-0.788	44.757	13.502
13.026	0.170	0.171	-5.775	-2.630	-0.449	44.674	7.620
13.196	0.300	0.301	-5.160	-1.937	-0.584	44.619	13.447
13.496	0.164	0.165	-5.160	-1.949	-0.322	44.605	7.359
13.660	0.300	0.301	-4.577	-1.276	-0.384	44.547	13.414
13.961	0.161	0.161	-4.577	-1.283	-0.207	44.563	7.186
14.121	0.300	0.301	-3.996	-0.601	-0.181	44.528	13.398
14.422	0.167	0.167	-3.996	-0.603	-0.101	44.511	7.455
14.589	0.300	0.301	-3.432	0.070	0.021	44.453	13.367
14.889	0.177	0.177	-3.432	0.071	0.012	44.442	7.863
15.065	0.300	0.301	-2.900	0.714	0.215	44.394	13.342
15.366	0.196	0.197	-2.900	0.717	0.141	44.387	8.733
15.562	0.300	0.300	-2.131	1.655	0.497	44.316	13.311
15.862	0.048	0.048	-2.131	1.658	0.079	44.321	2.122
15.910	0.124	0.124	-2.131	1.666	0.206	44.320	5.493
16.034	0.300	0.300	-1.302	2.725	0.818	44.254	13.286
16.334	0.162	0.162	-1.302	2.771	0.449	44.255	7.173
16.496	0.300	0.300	-0.438	3.926	1.178	44.158	13.255
16.796	0.154	0.154	-0.438	3.985	0.613	44.159	6.797
16.950	0.300	0.300	0.426	5.183	1.556	44.041	13.219
17.250	0.162	0.162	0.426	5.256	0.853	44.040	7.151
17.413	0.300	0.300	1.288	6.492	1.949	43.915	13.184
17.713	0.154	0.154	1.288	6.573	1.009	43.926	6.744
17.866	0.134	0.134	2.151	7.811	1.045	43.822	5.863
18.000	0.300	0.300	2.151	7.939	2.385	43.815	13.160
18.300	0.027	0.027	2.151	8.052	0.221	43.773	1.202
18.328	0.300	0.301	2.979	9.347	2.809	43.639	13.116
18.628	0.170	0.170	2.979	9.524	1.620	43.633	7.423
18.798	0.300	0.301	3.750	10.837	3.260	43.500	13.085
19.098	0.193	0.194	3.750	11.036	2.137	43.504	8.425
19.291	0.300	0.301	4.150	11.844	3.564	43.394	13.059
19.591	0.177	0.178	4.150	12.043	2.143	43.440	7.729
19.769	0.300	0.301	4.570	12.899	3.884	43.372	13.060
20.069	0.091	0.091	4.570	13.067	1.195	43.408	3.971
20.160	0.078	0.078	4.570	13.160	1.026	43.510	3.392
20.238	0.300	0.301	4.999	14.121	4.255	43.432	13.086
20.538	0.164	0.165	4.999	14.457	2.380	43.491	7.159
20.702	0.300	0.302	5.431	15.525	4.681	43.482	13.110
21.002	0.165	0.166	5.431	15.874	2.634	43.533	7.225
21.167	0.103	0.103	5.865	16.836	1.740	43.547	4.500
21.270	0.300	0.302	5.865	16.916	5.104	43.539	13.137
21.570	0.062	0.063	5.865	16.917	1.062	43.553	2.733
21.633	0.117	0.118	6.293	17.669	2.087	43.562	5.146
21.750	0.300	0.302	6.293	17.849	5.390	43.539	13.148
22.050	0.054	0.054	6.293	18.063	0.981	43.607	2.368
22.104	0.300	0.302	6.710	19.027	5.750	43.563	13.166

22.404	0.183	0.184	6.710	19.324	3.553	43.592	8.015
22.587	0.300	0.302	7.102	20.347	6.154	43.572	13.179
22.887	0.202	0.204	7.102	20.662	4.213	43.634	8.897
23.089	0.300	0.303	8.237	23.120	7.012	43.682	13.248
23.390	0.167	0.169	8.237	23.423	3.964	43.814	7.414
23.557	0.300	0.304	9.487	26.111	7.946	43.986	13.386
23.857	0.156	0.158	9.487	26.415	4.177	44.234	6.995
24.013	0.057	0.058	10.804	29.074	1.684	44.403	2.572
24.070	0.300	0.306	10.804	29.397	8.983	44.477	13.591
24.370	0.087	0.089	10.804	29.764	2.649	44.610	3.971
24.458	0.300	0.307	12.100	32.630	10.016	44.978	13.807
24.758	0.160	0.163	12.100	33.073	5.396	45.109	7.360
24.917	0.300	0.309	13.430	36.084	11.135	45.601	14.072
25.217	0.150	0.154	13.430	36.520	5.641	45.744	7.066
25.368	0.032	0.033	14.720	39.179	1.309	46.146	1.542
25.400	0.300	0.310	14.720	39.206	12.167	46.407	14.402
25.700	0.010	0.010	14.720	39.202	0.399	46.571	0.474
25.710	0.126	0.130	14.720	39.106	5.084	46.705	6.072
25.836	0.300	0.312	15.907	40.963	12.785	47.460	14.812
26.136	0.193	0.200	15.907	40.533	8.126	48.043	9.631
26.329	0.121	0.127	16.918	42.043	5.331	49.161	6.234
26.450	0.300	0.314	16.918	41.636	13.063	49.516	15.535
26.750	0.126	0.132	16.918	41.227	5.425	49.924	6.569
26.876	0.300	0.317	19.014	44.228	14.041	51.004	16.192
27.176	0.171	0.180	19.014	43.668	7.879	51.189	9.237
27.347	0.300	0.323	21.540	46.822	15.109	51.683	16.678
27.647	0.146	0.157	21.540	46.156	7.239	51.150	8.023
27.793	0.300	0.329	24.286	49.028	16.144	51.656	17.010
28.093	0.037	0.041	24.286	48.403	1.966	51.460	2.090
28.130	0.083	0.091	24.286	48.178	4.391	52.033	4.743
28.213	0.300	0.337	26.894	50.318	16.934	51.905	17.469
28.513	0.151	0.169	26.894	49.301	8.322	52.179	8.808
28.664	0.300	0.344	29.368	50.531	17.404	52.562	18.103
28.964	0.122	0.140	29.368	49.422	6.901	53.145	7.421
29.086	0.300	0.353	31.748	50.049	17.666	53.483	18.878
29.386	0.144	0.169	31.748	48.714	8.251	53.985	9.144
29.530	0.300	0.361	33.769	48.523	17.520	54.397	19.641
29.830	0.166	0.199	33.769	46.968	9.365	54.706	10.908
29.996	0.300	0.368	35.383	46.108	16.975	53.377	19.651
30.296	0.226	0.278	35.383	44.210	12.273	53.039	14.724
30.522	0.300	0.370	35.858	42.472	15.729	52.367	19.394
30.822	0.195	0.241	35.858	40.647	9.787	51.179	12.323
31.017	0.300	0.373	36.372	38.967	14.526	50.632	18.874
31.318	0.177	0.220	36.372	37.166	8.171	49.395	10.860
31.495	0.300	0.375	36.899	35.487	13.319	48.897	18.353
31.795	0.167	0.208	36.899	33.684	7.016	47.827	9.962
31.961	0.300	0.378	37.432	31.979	12.088	47.502	17.955
32.262	0.165	0.208	37.432	30.139	6.262	46.988	9.763
32.427	0.300	0.381	38.099	28.391	10.829	46.546	17.753
32.727	0.217	0.276	38.099	26.286	7.250	45.994	12.685
32.944	0.300	0.384	38.625	24.230	9.309	45.588	17.515
33.244	0.280	0.358	38.625	21.818	7.809	45.053	16.125
33.523	0.300	0.387	39.113	19.432	7.517	44.708	17.295

33.824	0.300	0.387	39.113	16.884	6.531	44.322	17.145
34.124	0.220	0.284	39.113	14.675	4.164	44.192	12.541
34.344	0.300	0.388	39.374	12.469	4.841	43.833	17.020
34.644	0.300	0.388	39.374	9.893	3.841	43.615	16.935
34.944	0.300	0.388	39.374	7.318	2.841	43.597	16.928
35.244	0.300	0.388	39.374	4.742	1.841	43.819	17.014
35.545	0.300	0.388	39.374	2.167	0.841	43.977	17.075
35.845	0.102	0.133	39.374	0.439	0.058	44.034	5.835

LEGENDA SIMBOLI

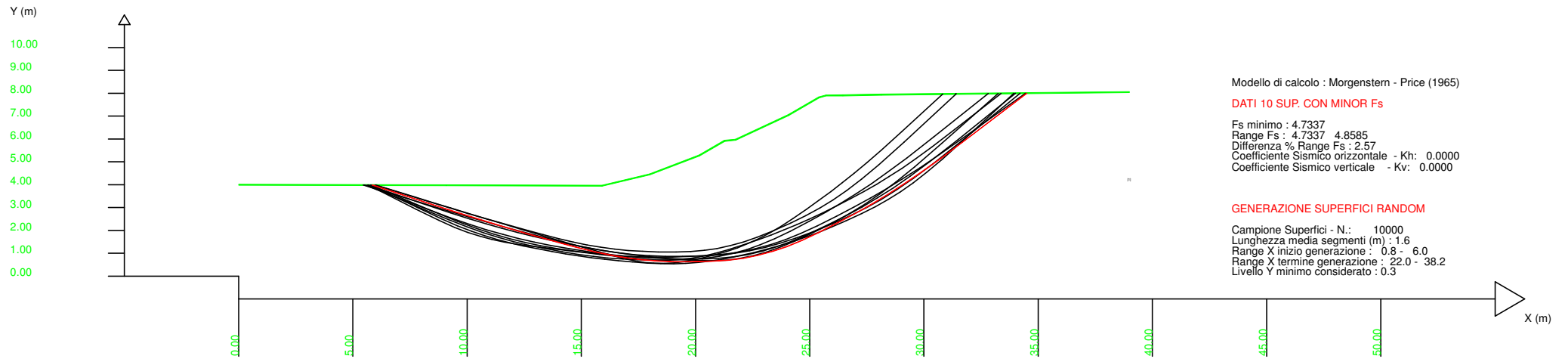
X(m) : Ascissa sinistra concio
dx(m) : Larghezza concio
dl(m) : lunghezza base concio
alpha(°) : Angolo pendenza base concio
TauStress(kPa) : Sforzo di taglio su base concio
TauF (kN/m) : Forza di taglio su base concio
TauStrength(kPa) : Resistenza al taglio su base concio
TauS (kN/m) : Forza resistente al taglio su base concio

SSAP 5.0 (2020) - Slope Stability Analysis Program
 Software by Dr.Geol. L.Borselli - www.lorenzo-borselli.eu
 SSAP/DXF generator rel. 2.0 (2020)

Data : 10/11/2020
 Localita' : San Sebastiano - S.Maria a Monte
 Descrizione : profilatura versante (Sez.1 Tav.4) lato sud stato modificato in condizioni statiche drenate
 [n] = N. strato o lente

Parametri Geotecnici degli strati # -----

N.	phi ⁱ deg	C ⁱ kPa	Cu kPa	Gamm kN/m3	GammSat kN/m3	sgci MPa	GSI	mi	D
1	22.00	25.00	0	19.50	20.00	0	0	0	0



Modello di calcolo : Morgenstern - Price (1965)

DATI 10 SUP. CON MINOR Fs

Fs minimo : 4.7337
 Range Fs : 4.7337 - 4.8585
 Differenza % Range Fs : 2.57
 Coefficiente Sismico orizzontale - Kh: 0.0000
 Coefficiente Sismico verticale - Kv: 0.0000

GENERAZIONE SUPERFICI RANDOM

Campione Superfici - N.: 10000
 Lunghezza media segmenti (m) : 1.6
 Range X inizio generazione : 0.8 - 6.0
 Range X termine generazione : 22.0 - 38.2
 Livello Y minimo considerato : 0.3

Report elaborazioni

SSAP 5.0 - Slope Stability Analysis Program (1991,2020)

WWW.SSAP.EU

Build No. 11716

BY

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** Gia' Ricercatore CNR-IRPI fino a Luglio 2011

Ultima Revisione struttura tabelle del report: 12 settembre 2020

File report: D:\ssp2010prove\lavori\smontemuro\PROFILI\verifiche\modificato statico dre.txt

Data: 10/11/2020

Localita' : San Sebastiano - S.Maria a Monte

Descrizione: profilatura versante (Sez.1 Tav.4) lato sud stato modificato in condizioni statiche drenate

Modello pendio: PROFILOPRODRE.mod

----- PARAMETRI DEL MODELLO DEL PENDIO -----

___ PARAMETRI GEOMETRICI - Coordinate X Y (in m) ___

SUP T.		SUP 2		SUP 3		SUP 4	
X	Y	X	Y	X	Y	X	Y
0.00	4.00	-	-	-	-	-	-
9.09	3.98	-	-	-	-	-	-
15.91	3.96	-	-	-	-	-	-
18.00	4.45	-	-	-	-	-	-
20.16	5.28	-	-	-	-	-	-
21.27	5.92	-	-	-	-	-	-
21.75	5.97	-	-	-	-	-	-
24.07	7.05	-	-	-	-	-	-
25.40	7.82	-	-	-	-	-	-
25.71	7.90	-	-	-	-	-	-
26.45	7.91	-	-	-	-	-	-
28.13	7.94	-	-	-	-	-	-
38.99	8.05	-	-	-	-	-	-

ASSENZA DI FALDA

----- PARAMETRI GEOMECCANICI -----

STRATO	1	fi`	C`	Cu	Gamm	Gamm_sat	STR_IDX	sgci	GSI	mi	D
		22.00	25.00	0.00	19.50	20.00	2.277	0.00	0.00	0.00	0.00

LEGENDA: fi` _____ Angolo di attrito interno efficace(in gradi)

C` _____ Coesione efficace (in Kpa)

Cu _____ Resistenza al taglio Non drenata (in Kpa)

Gamm _____ Peso di volume terreno fuori falda (in KN/m^3)
 Gamm_sat ___ Peso di volume terreno immerso (in KN/m^3)
 STR_IDX ___ Indice di resistenza (usato in solo in 'SNIFF SEARCH) (adimensionale)
 ---- SOLO Per AMMASSI ROCCIOSI FRATTURATI - Parametri Criterio di Rottura di Hoek (2002)-
 sigci _____ Resistenza Compressione Uniassiale Roccia Intatta (in MPa)
 GSI _____ Geological Strenght Index ammasso(adimensionale)
 mi _____ Indice litologico ammasso(adimensionale)
 D _____ Fattore di disturbo ammasso(adimensionale)
 Fattore di riduzione NTC2018: gammaPHI=1.25 e gammaC=1.25 - DISATTIVATO (solo per ROCCE)
 Uso CRITERIO DI ROTTURA Hoek et al.(2002,2006) - non-lineare - Generalizzato, secondo Lei et al.(2016)

----- INFORMAZIONI GENERAZIONE SUPERFICI RANDOM -----

*** PARAMETRI PER LA GENERAZIONE DELLE SUPERFICI

METODO DI RICERCA: CONVEX RANDOM - Chen (1992)
 FILTRAGGIO SUPERFICI : ATTIVATO
 COORDINATE X1,X2,Y OSTACOLO : 0.00 0.00 0.00
 LUNGHEZZA MEDIA SEGMENTI (m): 1.6 (+/-) 50%
 INTERVALLO ASCISSE RANDOM STARTING POINT (Xmin .. Xmax): 0.78 6.00
 LIVELLO MINIMO CONSIDERATO (Ymin): 0.28
 INTERVALLO ASCISSE AMMESSO PER LA TERMINAZIONE (Xmin .. Xmax): 22.00 38.21

*** TOTALE SUPERFICI GENERATE : 10000

----- INFORMAZIONI PARAMETRI DI CALCOLO -----

METODO DI CALCOLO : MORGENSTERN - PRICE (Morgenstern & Price, 1965)
 METODO DI ESPLORAZIONE CAMPO VALORI (lambda0,Fs0) ADOTTATO : A (rapido)
 COEFFICIENTE SISMICO UTILIZZATO Kh : 0.0000
 COEFFICIENTE SISMICO UTILIZZATO Kv (assunto Positivo): 0.0000
 COEFFICIENTE c=Kv/Kh UTILIZZATO : 0.5000
 FORZA ORIZZONTALE ADDIZIONALE IN TESTA (kN/m): 0.00
 FORZA ORIZZONTALE ADDIZIONALE ALLA BASE (kN/m): 0.00

N.B. Le forze orizzontali addizionali in testa e alla base sono poste uguali a 0 durante le tutte le verifiche globali.
 I valori >0 impostati dall'utente sono utilizzati solo in caso di verifica singola

----- RISULTATO FINALE ELABORAZIONI -----

* DATI RELATIVI ALLE 10 SUPERFICI GENERATE CON MINOR Fs *

Fattore di sicurezza (FS)	4.7337	- Min. -	X	Y	Lambda=	0.1384
			5.85	3.99		
			8.29	3.20		
			9.54	2.79		
			10.43	2.51		
			11.22	2.27		
			11.94	2.06		
			12.65	1.85		
			13.38	1.64		
			14.14	1.44		
			14.93	1.22		
			15.64	1.05		

16.32	0.91
16.97	0.81
17.66	0.72
18.32	0.67
19.03	0.64
19.79	0.63
20.69	0.65
21.42	0.70
22.09	0.78
22.70	0.90
23.38	1.08
23.99	1.29
24.66	1.56
25.38	1.90
26.24	2.34
27.01	2.76
27.73	3.17
28.42	3.58
29.12	4.03
29.88	4.55
30.75	5.17
32.00	6.10
34.50	8.00

Fattore di sicurezza (FS) 4.8305 - N.2 -- X Y Lambda= 0.1452

5.78	3.99
8.33	2.91
9.57	2.40
10.43	2.08
11.17	1.84
11.86	1.64
12.52	1.48
13.21	1.33
13.94	1.21
14.76	1.09
15.51	1.00
16.21	0.93
16.89	0.88
17.59	0.85
18.28	0.83
19.00	0.84
19.76	0.86
20.62	0.90
21.34	0.97
22.01	1.07
22.63	1.20
23.31	1.39
23.93	1.60
24.60	1.87
25.32	2.20
26.18	2.62
26.94	3.02

27.66	3.42
28.35	3.82
29.06	4.25
29.82	4.74
30.69	5.33
31.94	6.21
34.44	8.00

Fattore di sicurezza (FS) 4.8510 - N.3 -- X Y Lambda= 0.1429

5.63	3.99
8.02	2.95
9.21	2.46
10.02	2.14
10.73	1.90
11.39	1.69
12.03	1.52
12.69	1.36
13.39	1.21
14.16	1.07
14.86	0.95
15.53	0.86
16.17	0.80
16.83	0.74
17.48	0.71
18.16	0.70
18.88	0.71
19.72	0.73
20.40	0.78
21.03	0.87
21.61	0.99
22.25	1.17
22.83	1.37
23.47	1.64
24.15	1.97
24.98	2.40
25.70	2.80
26.39	3.20
27.04	3.61
27.70	4.05
28.42	4.55
29.24	5.17
30.43	6.09
32.81	7.99

Fattore di sicurezza (FS) 4.8516 - N.4 -- X Y Lambda= 0.1455

5.97	3.99
8.13	3.32
9.25	2.98
10.04	2.74
10.74	2.54
11.38	2.36

12.01	2.18
12.66	2.00
13.32	1.82
14.02	1.64
14.65	1.49
15.26	1.37
15.84	1.27
16.46	1.18
17.05	1.12
17.68	1.08
18.36	1.06
19.14	1.05
19.79	1.07
20.39	1.13
20.93	1.21
21.54	1.34
22.09	1.49
22.69	1.70
23.36	1.97
24.16	2.32
24.82	2.65
25.44	2.98
26.02	3.33
26.63	3.75
27.27	4.24
28.02	4.87
29.13	5.86
31.41	7.97

Fattore di sicurezza (FS) 4.8525 - N.5 -- X Y Lambda= 0.1496

5.68	3.99
7.76	2.93
8.76	2.44
9.44	2.14
10.02	1.92
10.57	1.74
11.08	1.61
11.62	1.49
12.18	1.40
12.83	1.31
13.45	1.23
14.04	1.16
14.62	1.09
15.20	1.02
15.78	0.95
16.38	0.89
17.01	0.82
17.67	0.75
18.23	0.71
18.76	0.70
19.25	0.73
19.80	0.78

20.30	0.87
20.84	0.99
21.42	1.15
22.10	1.37
22.72	1.58
23.30	1.80
23.86	2.01
24.43	2.25
24.98	2.50
25.55	2.76
26.14	3.05
26.78	3.38
27.37	3.70
27.93	4.02
28.48	4.36
29.04	4.72
29.65	5.14
30.35	5.65
31.35	6.42
33.37	7.99

Fattore di sicurezza (FS) 4.8528 - N.6 -- X Y Lambda= 0.1394

5.46	3.99
7.91	3.24
9.16	2.86
10.05	2.59
10.85	2.37
11.56	2.17
12.28	1.98
13.01	1.79
13.76	1.59
14.55	1.40
15.27	1.24
15.95	1.12
16.61	1.02
17.31	0.94
17.97	0.89
18.68	0.87
19.43	0.87
20.31	0.89
21.04	0.93
21.72	1.01
22.36	1.11
23.05	1.26
23.69	1.43
24.38	1.66
25.12	1.94
26.00	2.30
26.75	2.63
27.45	2.98
28.11	3.35
28.80	3.77

29.53	4.27
30.39	4.91
31.64	5.90
34.21	8.00

Fattore di sicurezza (FS) 4.8541 - N.7 -- X Y Lambda= 0.1359

5.68	3.99
8.05	3.17
9.26	2.77
10.10	2.51
10.85	2.28
11.53	2.09
12.20	1.92
12.88	1.75
13.58	1.59
14.33	1.43
15.03	1.29
15.70	1.16
16.37	1.06
17.04	0.96
17.72	0.88
18.42	0.81
19.17	0.74
20.01	0.69
20.69	0.67
21.32	0.70
21.89	0.77
22.54	0.90
23.12	1.06
23.76	1.29
24.47	1.59
25.34	2.00
26.08	2.37
26.76	2.75
27.40	3.14
28.06	3.59
28.77	4.12
29.59	4.78
30.79	5.82
33.25	7.99

Fattore di sicurezza (FS) 4.8557 - N.8 -- X Y Lambda= 0.1395

5.52	3.99
8.02	3.02
9.26	2.56
10.12	2.26
10.87	2.02
11.57	1.82
12.24	1.65
12.94	1.49
13.66	1.35

14.46	1.20
15.19	1.09
15.89	0.99
16.57	0.91
17.27	0.85
17.95	0.80
18.67	0.77
19.44	0.75
20.30	0.75
21.01	0.78
21.67	0.84
22.28	0.94
22.95	1.10
23.56	1.29
24.23	1.53
24.95	1.84
25.83	2.26
26.59	2.64
27.29	3.03
27.96	3.42
28.66	3.87
29.40	4.38
30.25	5.01
31.49	5.98
34.01	8.00

Fattore di sicurezza (FS)	4.8577	- N.9 --	X	Y	Lambda= 0.1432
			5.99	3.99	
			7.73	3.45	
			8.64	3.18	
			9.29	2.98	
			9.87	2.80	
			10.39	2.65	
			10.90	2.49	
			11.42	2.33	
			11.94	2.18	
			12.46	2.02	
			12.98	1.87	
			13.49	1.72	
			14.01	1.57	
			14.52	1.42	
			15.05	1.27	
			15.59	1.12	
			16.16	0.96	
			16.77	0.80	
			17.27	0.68	
			17.74	0.60	
			18.16	0.57	
			18.65	0.56	
			19.08	0.58	
			19.57	0.65	
			20.10	0.75	

20.78	0.92
21.33	1.07
21.83	1.24
22.30	1.42
22.79	1.65
23.25	1.89
23.74	2.18
24.26	2.51
24.86	2.93
25.41	3.32
25.93	3.70
26.43	4.09
26.94	4.50
27.50	4.96
28.13	5.52
29.03	6.33
30.82	7.97

Fattore di sicurezza (FS) 4.8585 - N.10 -- X Y Lambda= 0.1422

5.78	3.99
7.86	2.98
8.88	2.51
9.58	2.20
10.19	1.97
10.76	1.77
11.30	1.61
11.86	1.46
12.45	1.32
13.11	1.19
13.72	1.08
14.31	0.98
14.88	0.89
15.46	0.81
16.03	0.74
16.62	0.68
17.23	0.62
17.90	0.57
18.48	0.54
19.04	0.54
19.57	0.56
20.14	0.60
20.67	0.66
21.24	0.75
21.84	0.87
22.52	1.03
23.13	1.18
23.71	1.34
24.26	1.51
24.84	1.71
25.39	1.92
25.97	2.15
26.59	2.42

27.28	2.74
27.87	3.04
28.43	3.35
28.96	3.68
29.52	4.08
30.11	4.54
30.81	5.12
31.83	6.04
33.93	8.00

----- ANALISI DEFICIT DI RESISTENZA -----

DATI RELATIVI ALLE 10 SUPERFICIE GENERATE CON MINOR Fs *

Analisi Deficit in riferimento a FS(progetto) = 1.200

Sup N.	FS	FTR(kN/m)	FTA(kN/m)	Bilancio(kN/m)	ESITO
1	4.734	1544.7	326.3	1153.1	Surplus
2	4.830	1526.6	316.0	1147.4	Surplus
3	4.851	1460.9	301.1	1099.5	Surplus
4	4.852	1306.0	269.2	983.0	Surplus
5	4.852	1474.8	303.9	1110.1	Surplus
6	4.853	1518.0	312.8	1142.7	Surplus
7	4.854	1495.1	308.0	1125.5	Surplus
8	4.856	1537.7	316.7	1157.7	Surplus
9	4.858	1314.4	270.6	989.7	Surplus
10	4.859	1574.5	324.1	1185.7	Surplus

Esito analisi: SURPLUS di RESISTENZA!

Valore minimo di SURPLUS di RESISTENZA (kN/m): 983.0

Note: FTR --> Forza totale Resistente lungo la superficie di scivolamento

FTA --> Forza totale Agente lungo la superficie di scivolamento

IMPORTANTE! : Il Deficit o il Surplus di resistenza viene espresso in kN per metro di LARGHEZZA rispetto al fronte della scarpata

TABELLA PARAMETRI CONCI DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	alpha (°)	W (kN/m)	ru (-)	U (kPa)	phi' (°)	(c',Cu) (kPa)
5.849	0.292	-17.98	0.27	0.00	0.00	22.00	25.00
6.141	0.292	-17.98	0.80	0.00	0.00	22.00	25.00
6.433	0.292	-17.98	1.34	0.00	0.00	22.00	25.00
6.725	0.292	-17.98	1.87	0.00	0.00	22.00	25.00
7.017	0.292	-17.98	2.41	0.00	0.00	22.00	25.00
7.308	0.292	-17.98	2.95	0.00	0.00	22.00	25.00
7.600	0.292	-17.98	3.48	0.00	0.00	22.00	25.00
7.892	0.292	-17.98	4.02	0.00	0.00	22.00	25.00

8.184	0.103	-17.98	1.54	0.00	0.00	22.00	25.00
8.287	0.292	-17.79	4.74	0.00	0.00	22.00	25.00
8.579	0.292	-17.79	5.27	0.00	0.00	22.00	25.00
8.871	0.219	-17.79	4.31	0.00	0.00	22.00	25.00
9.090	0.292	-17.79	6.19	0.00	0.00	22.00	25.00
9.382	0.159	-17.79	3.59	0.00	0.00	22.00	25.00
9.541	0.292	-17.43	7.00	0.00	0.00	22.00	25.00
9.833	0.292	-17.43	7.52	0.00	0.00	22.00	25.00
10.124	0.292	-17.43	8.04	0.00	0.00	22.00	25.00
10.416	0.013	-17.43	0.36	0.00	0.00	22.00	25.00
10.429	0.292	-17.05	8.57	0.00	0.00	22.00	25.00
10.721	0.292	-17.05	9.07	0.00	0.00	22.00	25.00
11.013	0.211	-17.05	6.89	0.00	0.00	22.00	25.00
11.224	0.292	-16.57	9.94	0.00	0.00	22.00	25.00
11.516	0.292	-16.57	10.43	0.00	0.00	22.00	25.00
11.808	0.128	-16.57	4.72	0.00	0.00	22.00	25.00
11.936	0.292	-16.19	11.12	0.00	0.00	22.00	25.00
12.228	0.292	-16.19	11.60	0.00	0.00	22.00	25.00
12.520	0.133	-16.19	5.44	0.00	0.00	22.00	25.00
12.652	0.292	-15.83	12.29	0.00	0.00	22.00	25.00
12.944	0.292	-15.83	12.76	0.00	0.00	22.00	25.00
13.236	0.145	-15.83	6.52	0.00	0.00	22.00	25.00
13.382	0.292	-15.47	13.45	0.00	0.00	22.00	25.00
13.673	0.292	-15.47	13.91	0.00	0.00	22.00	25.00
13.965	0.170	-15.47	8.29	0.00	0.00	22.00	25.00
14.135	0.292	-15.14	14.62	0.00	0.00	22.00	25.00
14.427	0.292	-15.14	15.06	0.00	0.00	22.00	25.00
14.719	0.209	-15.14	11.04	0.00	0.00	22.00	25.00
14.928	0.292	-13.49	15.80	0.00	0.00	22.00	25.00
15.219	0.292	-13.49	16.19	0.00	0.00	22.00	25.00
15.511	0.124	-13.49	7.00	0.00	0.00	22.00	25.00
15.635	0.275	-11.51	15.73	0.00	0.00	22.00	25.00
15.910	0.292	-11.51	17.24	0.00	0.00	22.00	25.00
16.202	0.114	-11.51	6.92	0.00	0.00	22.00	25.00
16.316	0.292	-9.29	18.21	0.00	0.00	22.00	25.00
16.608	0.292	-9.29	18.88	0.00	0.00	22.00	25.00
16.900	0.067	-9.29	4.40	0.00	0.00	22.00	25.00
16.966	0.292	-7.07	19.66	0.00	0.00	22.00	25.00
17.258	0.292	-7.07	20.25	0.00	0.00	22.00	25.00
17.550	0.108	-7.07	7.65	0.00	0.00	22.00	25.00
17.658	0.292	-4.72	21.03	0.00	0.00	22.00	25.00
17.950	0.050	-4.72	3.65	0.00	0.00	22.00	25.00
18.000	0.292	-4.72	21.77	0.00	0.00	22.00	25.00
18.292	0.028	-4.72	2.10	0.00	0.00	22.00	25.00
18.319	0.292	-2.41	22.59	0.00	0.00	22.00	25.00
18.611	0.292	-2.41	23.30	0.00	0.00	22.00	25.00
18.903	0.123	-2.41	9.99	0.00	0.00	22.00	25.00
19.026	0.292	-0.35	24.27	0.00	0.00	22.00	25.00
19.318	0.292	-0.35	24.92	0.00	0.00	22.00	25.00
19.610	0.180	-0.35	15.70	0.00	0.00	22.00	25.00
19.790	0.292	1.28	25.95	0.00	0.00	22.00	25.00
20.082	0.078	1.28	7.06	0.00	0.00	22.00	25.00
20.160	0.292	1.28	26.87	0.00	0.00	22.00	25.00

20.452	0.238	1.28	22.54	0.00	0.00	22.00	25.00
20.689	0.292	3.78	28.50	0.00	0.00	22.00	25.00
20.981	0.289	3.78	29.02	0.00	0.00	22.00	25.00
21.270	0.150	3.78	15.26	0.00	0.00	22.00	25.00
21.420	0.292	7.15	29.78	0.00	0.00	22.00	25.00
21.712	0.038	7.15	3.92	0.00	0.00	22.00	25.00
21.750	0.292	7.15	30.04	0.00	0.00	22.00	25.00
22.042	0.048	7.15	4.99	0.00	0.00	22.00	25.00
22.090	0.292	11.11	30.64	0.00	0.00	22.00	25.00
22.382	0.292	11.11	31.09	0.00	0.00	22.00	25.00
22.674	0.028	11.11	2.96	0.00	0.00	22.00	25.00
22.701	0.292	14.95	31.52	0.00	0.00	22.00	25.00
22.993	0.292	14.95	31.85	0.00	0.00	22.00	25.00
23.285	0.091	14.95	10.03	0.00	0.00	22.00	25.00
23.376	0.292	18.64	32.22	0.00	0.00	22.00	25.00
23.668	0.292	18.64	32.44	0.00	0.00	22.00	25.00
23.960	0.030	18.64	3.37	0.00	0.00	22.00	25.00
23.990	0.080	22.17	8.87	0.00	0.00	22.00	25.00
24.070	0.292	22.17	32.73	0.00	0.00	22.00	25.00
24.362	0.292	22.17	33.02	0.00	0.00	22.00	25.00
24.654	0.004	22.17	0.45	0.00	0.00	22.00	25.00
24.658	0.292	25.02	33.26	0.00	0.00	22.00	25.00
24.950	0.292	25.02	33.44	0.00	0.00	22.00	25.00
25.242	0.138	25.02	15.85	0.00	0.00	22.00	25.00
25.379	0.021	27.10	2.38	0.00	0.00	22.00	25.00
25.400	0.292	27.10	33.42	0.00	0.00	22.00	25.00
25.692	0.018	27.10	2.06	0.00	0.00	22.00	25.00
25.710	0.292	27.10	32.77	0.00	0.00	22.00	25.00
26.002	0.242	27.10	26.58	0.00	0.00	22.00	25.00
26.244	0.206	28.27	22.11	0.00	0.00	22.00	25.00
26.450	0.292	28.27	30.62	0.00	0.00	22.00	25.00
26.742	0.269	28.27	27.48	0.00	0.00	22.00	25.00
27.011	0.292	29.63	28.94	0.00	0.00	22.00	25.00
27.303	0.292	29.63	28.02	0.00	0.00	22.00	25.00
27.595	0.138	29.63	12.90	0.00	0.00	22.00	25.00
27.733	0.292	31.06	26.65	0.00	0.00	22.00	25.00
28.025	0.105	31.06	9.39	0.00	0.00	22.00	25.00
28.130	0.291	31.06	25.27	0.00	0.00	22.00	25.00
28.421	0.292	32.49	24.31	0.00	0.00	22.00	25.00
28.713	0.292	32.49	23.27	0.00	0.00	22.00	25.00
29.005	0.119	32.49	9.16	0.00	0.00	22.00	25.00
29.124	0.292	34.21	21.77	0.00	0.00	22.00	25.00
29.416	0.292	34.21	20.65	0.00	0.00	22.00	25.00
29.708	0.176	34.21	11.93	0.00	0.00	22.00	25.00
29.884	0.292	35.55	18.84	0.00	0.00	22.00	25.00
30.176	0.292	35.55	17.67	0.00	0.00	22.00	25.00
30.468	0.285	35.55	16.14	0.00	0.00	22.00	25.00
30.753	0.292	36.71	15.33	0.00	0.00	22.00	25.00
31.045	0.292	36.71	14.11	0.00	0.00	22.00	25.00
31.337	0.292	36.71	12.88	0.00	0.00	22.00	25.00
31.629	0.292	36.71	11.66	0.00	0.00	22.00	25.00
31.921	0.081	36.71	3.02	0.00	0.00	22.00	25.00
32.002	0.292	37.30	10.09	0.00	0.00	22.00	25.00

32.294	0.292	37.30	8.84	0.00	0.00	22.00	25.00
32.586	0.292	37.30	7.59	0.00	0.00	22.00	25.00
32.878	0.292	37.30	6.34	0.00	0.00	22.00	25.00
33.169	0.292	37.30	5.09	0.00	0.00	22.00	25.00
33.461	0.292	37.30	3.84	0.00	0.00	22.00	25.00
33.753	0.292	37.30	2.59	0.00	0.00	22.00	25.00
34.045	0.292	37.30	1.34	0.00	0.00	22.00	25.00
34.337	0.168	37.30	0.21	0.00	0.00	22.00	25.00

 LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
 dx(m) : Larghezza concio
 alpha(°) : Angolo pendenza base concio
 W(kN/m) : Forza peso concio
 ru(-) : Coefficiente locale pressione interstiziale
 U(kPa) : Pressione totale dei pori base concio
 phi'(°) : Angolo di attrito efficace base concio
 c'/Cu (kPa) : Coesione efficace o Resistenza al taglio in condizioni non drenate

TABELLA DIAGRAMMA DELLE FORZE DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	ht (m)	yt (m)	yt' (--)	E(x) (kN/m)	T(x) (kN/m)	E' (kN)	rho(x) (--)	FS_qFEM (--)	FS_srmFEM (--)
5.849	0.000	3.987	-0.243	0.0000000000E+000	0.0000000000E+000	7.1561172943E+001	0.158	11.269	10.412
6.141	0.024	3.916	-0.243	1.4645555840E+001	8.1044681182E-003	2.8782466036E+001	0.158	11.269	10.412
6.433	0.047	3.845	-0.242	1.6803664600E+001	2.6691896764E-002	7.8694458970E+000	0.158	6.199	5.996
6.725	0.072	3.775	-0.240	1.9239864377E+001	6.8697293327E-002	8.8226049299E+000	0.158	4.533	4.523
7.017	0.097	3.705	-0.256	2.1954442645E+001	1.4481416086E-001	1.0666713697E+001	0.158	3.661	3.763
7.308	0.112	3.625	-0.256	2.5467262652E+001	2.6808002273E-001	1.1711748148E+001	0.158	3.105	3.281
7.600	0.137	3.556	-0.236	2.8791948768E+001	3.9740150915E-001	1.1516170014E+001	0.158	2.822	3.035
7.892	0.163	3.487	-0.228	3.2190587129E+001	5.3401746985E-001	1.1605226967E+001	0.158	2.626	2.865
8.184	0.193	3.422	-0.217	3.5567266119E+001	6.7715942883E-001	1.1290361351E+001	0.158	2.500	2.753
8.287	0.205	3.401	-0.209	3.6717144811E+001	7.2780410746E-001	1.1425688020E+001	0.158	2.470	2.726
8.579	0.238	3.340	-0.220	4.0245570333E+001	8.9102898463E-001	1.3196948375E+001	0.158	2.415	2.672
8.871	0.264	3.273	-0.228	4.4421734610E+001	1.0968798595E+000	1.4576243931E+001	0.158	2.400	2.651
9.090	0.285	3.223	-0.221	4.7662800999E+001	1.2623182780E+000	1.4793910478E+001	0.158	2.411	2.650
9.382	0.316	3.160	-0.217	5.1987078317E+001	1.4901906267E+000	1.5326332263E+001	0.158	2.447	2.665
9.541	0.332	3.126	-0.217	5.4464675536E+001	1.6258556454E+000	1.5784998538E+001	0.158	2.478	2.681
9.833	0.360	3.062	-0.215	5.9169004955E+001	1.8899948122E+000	1.6335874284E+001	0.160	2.549	2.718
10.124	0.390	3.000	-0.208	6.4001820548E+001	2.1717696925E+000	1.6696726901E+001	0.171	2.636	2.763
10.416	0.422	2.941	-0.202	6.8916821504E+001	2.4746226869E+000	1.6388993200E+001	0.182	2.740	2.816
10.429	0.424	2.939	-0.198	6.9122689033E+001	2.4877460448E+000	1.6410834387E+001	0.183	2.744	2.818
10.721	0.456	2.881	-0.203	7.4192051505E+001	2.8156946054E+000	1.8308919820E+001	0.194	2.859	2.872
11.013	0.484	2.820	-0.208	7.9811729626E+001	3.1988299047E+000	1.9627751498E+001	0.207	2.991	2.930
11.224	0.505	2.776	-0.200	8.4018726313E+001	3.4943470199E+000	1.9662833390E+001	0.216	3.092	2.971
11.516	0.536	2.720	-0.198	8.9662785482E+001	3.9058202724E+000	2.0231126369E+001	0.228	3.228	3.024
11.808	0.563	2.661	-0.203	9.5829981873E+001	4.3729139948E+000	2.1752177557E+001	0.242	3.378	3.077
11.936	0.575	2.634	-0.202	9.8644366013E+001	4.5904670395E+000	2.2046393780E+001	0.248	3.448	3.100
12.228	0.602	2.576	-0.192	1.0509364964E+002	5.1010011025E+000	2.1699198219E+001	0.261	3.607	3.150

12.520	0.633	2.523	-0.178	1.1131270543E+002	5.6134942749E+000	2.0516842691E+001	0.274	3.760	3.195
12.652	0.649	2.500	-0.175	1.1398953471E+002	5.8385078392E+000	2.0689506793E+001	0.279	3.826	3.213
12.944	0.680	2.448	-0.178	1.2036978976E+002	6.3859691104E+000	2.2260752869E+001	0.292	3.986	3.255
13.236	0.711	2.396	-0.176	1.2698571872E+002	6.9747557084E+000	2.2598613591E+001	0.305	4.160	3.297
13.382	0.727	2.371	-0.176	1.3026446343E+002	7.2723788053E+000	2.3002758698E+001	0.311	4.253	3.317
13.673	0.756	2.320	-0.176	1.3723537930E+002	7.9229903611E+000	2.4281864518E+001	0.325	4.467	3.361
13.965	0.786	2.268	-0.173	1.4444060479E+002	8.6263473491E+000	2.4730465584E+001	0.339	4.728	3.407
14.135	0.804	2.240	-0.172	1.4864273051E+002	9.0473955549E+000	2.5190352644E+001	0.347	4.907	3.435
14.427	0.832	2.189	-0.168	1.5621308201E+002	9.8279576439E+000	2.6115019882E+001	0.363	5.293	3.490
14.719	0.863	2.141	-0.157	1.6388909732E+002	1.0659348302E+001	2.5845470872E+001	0.378	5.828	3.556
14.928	0.889	2.110	-0.143	1.6921493751E+002	1.1255713815E+001	2.5659089433E+001	0.389	6.321	3.607
15.219	0.918	2.069	-0.127	1.7676043597E+002	1.2134325941E+001	2.5386447123E+001	0.405	7.223	3.692
15.511	0.954	2.036	-0.109	1.8403595189E+002	1.3030655276E+001	2.3807258240E+001	0.421	8.509	3.795
15.635	0.972	2.024	-0.087	1.8692912782E+002	1.3400976141E+001	2.3556129500E+001	0.428	9.200	3.843
15.910	1.005	2.001	-0.069	1.9353472211E+002	1.4276503725E+001	2.3397563546E+001	0.444	11.143	3.966
16.202	1.049	1.985	-0.050	2.0016205389E+002	1.5208097147E+001	2.3551861655E+001	0.455	13.832	4.118
16.316	1.068	1.981	-0.026	2.0288152573E+002	1.5610952704E+001	2.3778612143E+001	0.460	15.085	4.192
16.608	1.109	1.974	-0.011	2.0974473176E+002	1.6658816296E+001	2.2843776968E+001	0.474	18.555	4.402
16.900	1.157	1.974	0.003	2.1621808855E+002	1.7694474291E+001	2.1544725313E+001	0.488	21.370	4.643
16.966	1.168	1.975	0.022	2.1764325895E+002	1.7927831408E+001	2.1255269977E+001	0.491	21.842	4.702
17.258	1.212	1.982	0.034	2.2366175220E+002	1.8944874086E+001	1.9973360104E+001	0.504	22.274	4.982
17.550	1.261	1.995	0.047	2.2930402643E+002	1.9945033941E+001	1.8392818103E+001	0.516	20.541	5.298
17.658	1.280	2.001	0.062	2.3125535528E+002	2.0304501614E+001	1.7727328350E+001	0.521	19.600	5.425
17.950	1.323	2.020	0.066	2.3617894064E+002	2.1242172857E+001	1.7507897708E+001	0.532	17.205	5.786
18.000	1.331	2.024	0.087	2.3705910676E+002	2.1415318321E+001	1.7300763335E+001	0.534	16.823	5.857
18.292	1.381	2.050	0.090	2.4156894202E+002	2.2350916817E+001	1.5820548931E+001	0.543	14.700	6.283
18.319	1.386	2.052	0.123	2.4200628801E+002	2.2446428745E+001	1.5887490404E+001	0.544	14.515	6.330
18.611	1.435	2.089	0.134	2.4674246141E+002	2.3534484494E+001	1.5879277714E+001	0.556	12.869	6.914
18.903	1.489	2.131	0.150	2.5127686463E+002	2.4652822476E+001	1.5394428205E+001	0.568	11.724	7.616
19.026	1.514	2.151	0.172	2.5315638037E+002	2.5145059086E+001	1.5167695056E+001	0.574	11.347	7.963
19.318	1.567	2.202	0.185	2.5746695626E+002	2.6330523987E+001	1.4376942035E+001	0.588	10.711	8.900
19.610	1.626	2.259	0.209	2.6154986961E+002	2.7531387732E+001	1.4344617432E+001	0.602	10.330	9.987
19.790	1.669	2.301	0.235	2.6417363302E+002	2.8347196715E+001	1.3795024073E+001	0.612	10.144	10.765
20.082	1.731	2.370	0.235	2.6783614276E+002	2.9574126687E+001	1.1398150846E+001	0.626	9.959	11.891
20.160	1.748	2.388	0.251	2.6870422419E+002	2.9878693456E+001	1.0966136460E+001	0.630	9.924	12.126
20.452	1.816	2.463	0.260	2.7177033424E+002	3.1015170854E+001	9.9392387756E+000	0.639	9.766	12.761
20.689	1.874	2.526	0.263	2.7402201632E+002	3.1899075182E+001	8.5496881575E+000	0.645	9.607	13.010
20.981	1.931	2.602	0.263	2.7618400475E+002	3.2840376502E+001	6.4726631887E+000	0.651	9.358	12.837
21.270	1.988	2.679	0.264	2.7778588661E+002	3.3658368765E+001	4.6955883775E+000	0.656	9.021	12.300
21.420	2.017	2.718	0.258	2.7842219882E+002	3.4036349033E+001	3.4099103881E+000	0.662	8.828	11.959
21.712	2.056	2.793	0.257	2.7893733143E+002	3.4611817350E+001	6.1722128433E-001	0.673	8.399	11.144
21.750	2.061	2.802	0.261	2.7895526186E+002	3.4675868829E+001	3.0217040567E-001	0.674	8.340	11.035
22.042	2.100	2.879	0.259	2.7868080236E+002	3.5078238392E+001	-2.1911432528E+000	0.676	7.873	10.211
22.090	2.106	2.890	0.298	2.7856595994E+002	3.5122343390E+001	-2.8459894966E+000	0.675	7.799	10.089
22.382	2.138	2.980	0.318	2.7693593450E+002	3.5317872606E+001	-6.9506663253E+000	0.676	7.241	9.224
22.674	2.177	3.076	0.328	2.7450804963E+002	3.5379345637E+001	-9.5026538522E+000	0.674	6.691	8.437
22.701	2.181	3.085	0.365	2.7424264274E+002	3.5379108153E+001	-9.8394004545E+000	0.674	6.639	8.368
22.993	2.210	3.193	0.384	2.7067696745E+002	3.5275872939E+001	-1.3760294301E+001	0.672	6.107	7.661
23.285	2.249	3.309	0.389	2.6620916257E+002	3.5034726204E+001	-1.5766345546E+001	0.668	5.616	7.038
23.376	2.257	3.342	0.381	2.6475577860E+002	3.4938075704E+001	-1.6793007984E+001	0.667	5.480	6.874
23.668	2.272	3.455	0.389	2.5903059362E+002	3.4482641750E+001	-2.1300451053E+001	0.662	5.067	6.380
23.960	2.287	3.569	0.389	2.5232023416E+002	3.3853528619E+001	-2.4697228075E+001	0.654	4.710	5.971
23.990	2.288	3.580	0.419	2.5156775343E+002	3.3776372738E+001	-2.4937204528E+001	0.653	4.677	5.935

24.070	2.290	3.615	0.466	2.4957160038E+002	3.3570111632E+001	-2.5369983109E+001	0.651	4.594	5.843
24.362	2.310	3.754	0.476	2.4187914968E+002	3.2748185563E+001	-2.6801978650E+001	0.640	4.323	5.541
24.654	2.330	3.893	0.476	2.3392417603E+002	3.1844188944E+001	-2.9080197524E+001	0.628	4.106	5.304
24.658	2.331	3.894	0.451	2.3380921680E+002	3.1830406297E+001	-2.9099581718E+001	0.627	4.103	5.301
24.950	2.326	4.026	0.426	2.2543040537E+002	3.0812924937E+001	-2.9363577754E+001	0.614	3.929	5.118
25.242	2.307	4.143	0.390	2.1666628987E+002	2.9686908722E+001	-2.9643781220E+001	0.598	3.789	4.972
25.379	2.293	4.194	0.364	2.1260732018E+002	2.9135752396E+001	-2.9467765688E+001	0.590	3.736	4.920
25.400	2.290	4.201	0.358	2.1199849270E+002	2.9052430894E+001	-2.9594065256E+001	0.589	3.729	4.912
25.692	2.245	4.306	0.358	2.0284083225E+002	2.7747658490E+001	-3.2780750352E+001	0.577	3.638	4.823
25.710	2.242	4.312	0.324	2.0224618320E+002	2.7660907453E+001	-3.2848562564E+001	0.576	3.633	4.818
26.002	2.187	4.406	0.318	1.9274934356E+002	2.6177359595E+001	-3.3674901079E+001	0.563	3.578	4.769
26.244	2.139	4.482	0.332	1.8435911454E+002	2.4788479613E+001	-3.8009982083E+001	0.549	3.546	4.749
26.450	2.101	4.555	0.332	1.7594650833E+002	2.3349107806E+001	-4.0039530129E+001	0.533	3.527	4.745
26.742	2.036	4.648	0.322	1.6460931801E+002	2.1335290237E+001	-3.9869148123E+001	0.507	3.522	4.766
27.011	1.980	4.736	0.325	1.5361961888E+002	1.9363243480E+001	-4.0407035670E+001	0.479	3.528	4.803
27.303	1.908	4.830	0.319	1.4195517150E+002	1.7277237657E+001	-3.8808784893E+001	0.448	3.548	4.861
27.595	1.834	4.922	0.310	1.3096242876E+002	1.5361753486E+001	-3.5213898492E+001	0.418	3.581	4.941
27.733	1.797	4.963	0.297	1.2627318456E+002	1.4574688721E+001	-3.3657617984E+001	0.405	3.599	4.983
28.025	1.707	5.050	0.298	1.1669797468E+002	1.3019915105E+001	-3.2471763908E+001	0.380	3.642	5.079
28.130	1.676	5.082	0.309	1.1328568282E+002	1.2492077077E+001	-3.2173534914E+001	0.372	3.660	5.117
28.421	1.591	5.172	0.318	1.0405531954E+002	1.1118776136E+001	-3.1620945437E+001	0.348	3.714	5.231
28.713	1.500	5.267	0.331	9.4842022685E+001	9.8138822509E+000	-3.1259332246E+001	0.325	3.776	5.357
29.005	1.413	5.366	0.344	8.5805620782E+001	8.5919391125E+000	-3.1596932438E+001	0.302	3.844	5.492
29.124	1.380	5.409	0.368	8.2024702518E+001	8.0938422802E+000	-3.1648615859E+001	0.292	3.872	5.551
29.416	1.290	5.517	0.374	7.2936106790E+001	6.9353073312E+000	-3.0273051055E+001	0.268	3.947	5.698
29.708	1.202	5.627	0.385	6.4350810513E+001	5.8865018405E+000	-2.9477312486E+001	0.244	4.023	5.840
29.884	1.152	5.697	0.395	5.9149318629E+001	5.2695387365E+000	-2.8438082926E+001	0.228	4.068	5.928
30.176	1.058	5.812	0.428	5.1369901564E+001	4.3927616053E+000	-2.7526067881E+001	0.206	4.138	6.053
30.468	0.985	5.947	0.472	4.3079159392E+001	3.5103165160E+000	-2.7766080306E+001	0.180	4.210	6.181
30.753	0.918	6.085	0.477	3.5333445827E+001	2.7265952981E+000	-2.5648188257E+001	0.158	4.276	6.297
31.045	0.839	6.223	0.469	2.8293369817E+001	2.0609142384E+000	-2.2610668839E+001	0.158	4.335	6.394
31.337	0.757	6.359	0.467	2.2132975281E+001	1.5229067713E+000	-1.9974807924E+001	0.158	4.381	6.467
31.629	0.676	6.496	0.456	1.6631757070E+001	1.0789350666E+000	-1.6925688467E+001	0.158	4.413	6.514
31.921	0.587	6.624	0.447	1.2251487289E+001	7.6288624822E-001	-1.4212033542E+001	0.158	4.420	6.517
32.002	0.565	6.662	0.459	1.1116741556E+001	6.8596104644E-001	-1.3562547640E+001	0.158	4.416	6.509
32.294	0.476	6.796	0.470	7.6084456404E+000	4.6970032280E-001	-1.1068955289E+001	0.158	4.382	6.446
32.586	0.394	6.937	0.493	4.6545081980E+000	3.0712727527E-001	-9.7837566777E+000	0.158	4.327	6.342
32.878	0.319	7.084	0.540	1.8965318130E+000	1.6744017604E-001	-9.1624824978E+000	0.158	4.256	6.213
33.169	0.265	7.252	0.571	-6.9469581404E-001	5.5786922071E-002	-7.1519716835E+000	0.158	4.112	5.962
33.461	0.208	7.417	0.558	-2.2789037889E+000	2.5865054205E-004	-3.6268757005E+000	0.158	3.918	5.631
33.753	0.146	7.578	0.557	-2.8121239295E+000	-1.2194329384E-002	-2.8773688562E-001	0.158	3.687	5.234
34.045	0.088	7.742	0.567	-2.4468891906E+000	-7.5080984571E-003	2.7909614332E+000	0.158	3.691	5.078
34.337	0.032	7.909	0.567	-1.1827159498E+000	-2.1476557856E-003	6.0560318365E+000	0.158	8.237	11.673

 LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
 ht(m) : Altezza linea di thrust da nodo sinistro base concio
 yt(m) : coordinata Y linea di trust
 yt'(-) : gradiente pendenza locale linea di trust
 E(x) (kN/m) : Forza Normale interconcio
 T(x) (kN/m) : Forza Tangenziale interconcio

E' (kN) : derivata Forza normale interconcio
 Rho(x) (-) : fattore mobilizzazione resistenza al taglio verticale interconcio ZhU et al.(2003)
 FS_qFEM(x) (-) : fattore di sicurezza locale stimato (locale in X) by qFEM
 FS_srmFEM(x) (-) : fattore di sicurezza locale stimato (locale in X) by SRM Procedure

TABELLA SFORZI DI TAGLIO DISTRIBUITI LUNGO SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	dl (m)	alpha (°)	TauStress (kPa)	TauF (kN/m)	TauStrength (kPa)	TauS (kN/m)
5.849	0.292	0.307	-17.981	-0.269	-0.083	25.384	7.790
6.141	0.292	0.307	-17.981	-0.808	-0.248	26.118	8.016
6.433	0.292	0.307	-17.981	-1.347	-0.413	26.929	8.265
6.725	0.292	0.307	-17.981	-1.886	-0.579	27.805	8.533
7.017	0.292	0.307	-17.981	-2.425	-0.744	28.759	8.826
7.308	0.292	0.307	-17.981	-2.963	-0.909	29.467	9.043
7.600	0.292	0.307	-17.981	-3.502	-1.075	30.181	9.263
7.892	0.292	0.307	-17.981	-4.041	-1.240	30.891	9.480
8.184	0.103	0.108	-17.981	-4.405	-0.476	31.349	3.386
8.287	0.292	0.307	-17.786	-4.721	-1.447	31.921	9.786
8.579	0.292	0.307	-17.786	-5.249	-1.609	32.840	10.067
8.871	0.219	0.230	-17.786	-5.711	-1.315	33.507	7.717
9.090	0.292	0.307	-17.786	-6.172	-1.892	34.134	10.464
9.382	0.159	0.167	-17.786	-6.578	-1.097	34.774	5.798
9.541	0.292	0.306	-17.427	-6.856	-2.098	35.381	10.825
9.833	0.292	0.306	-17.427	-7.362	-2.252	36.136	11.056
10.124	0.292	0.306	-17.427	-7.867	-2.407	36.911	11.293
10.416	0.013	0.013	-17.427	-8.131	-0.107	37.261	0.491
10.429	0.292	0.305	-17.046	-8.228	-2.512	37.748	11.525
10.721	0.292	0.305	-17.046	-8.713	-2.660	38.707	11.818
11.013	0.211	0.221	-17.046	-9.130	-2.019	39.402	8.713
11.224	0.292	0.305	-16.569	-9.305	-2.834	39.982	12.177
11.516	0.292	0.305	-16.569	-9.763	-2.973	40.922	12.463
11.808	0.128	0.133	-16.569	-10.093	-1.345	41.540	5.538
11.936	0.292	0.304	-16.194	-10.207	-3.103	42.069	12.788
12.228	0.292	0.304	-16.194	-10.645	-3.236	42.689	12.976
12.520	0.133	0.138	-16.194	-10.964	-1.516	43.033	5.950
12.652	0.292	0.303	-15.827	-11.049	-3.352	43.778	13.283
12.944	0.292	0.303	-15.827	-11.468	-3.480	44.604	13.533
13.236	0.145	0.151	-15.827	-11.782	-1.779	45.102	6.811
13.382	0.292	0.303	-15.469	-11.845	-3.587	45.840	13.884
13.673	0.292	0.303	-15.469	-12.245	-3.709	46.713	14.148
13.965	0.170	0.176	-15.469	-12.562	-2.212	47.289	8.328
14.135	0.292	0.302	-15.136	-12.623	-3.817	48.052	14.531
14.427	0.292	0.302	-15.136	-13.007	-3.933	48.899	14.787
14.719	0.209	0.216	-15.136	-13.336	-2.883	49.406	10.680
14.928	0.292	0.300	-13.485	-12.275	-3.685	50.061	15.028
15.219	0.292	0.300	-13.485	-12.580	-3.776	50.665	15.209
15.511	0.124	0.128	-13.485	-12.798	-1.632	50.910	6.492
15.635	0.275	0.280	-11.509	-11.196	-3.138	51.401	14.407
15.910	0.292	0.298	-11.509	-11.545	-3.439	52.098	15.520
16.202	0.114	0.116	-11.509	-11.883	-1.381	53.226	6.185

16.316	0.292	0.296	-9.291	-9.942	-2.941	53.674	15.876
16.608	0.292	0.296	-9.291	-10.303	-3.047	54.517	16.126
16.900	0.067	0.067	-9.291	-10.524	-0.710	55.014	3.712
16.966	0.292	0.294	-7.073	-8.229	-2.420	55.194	16.235
17.258	0.292	0.294	-7.073	-8.478	-2.494	55.950	16.458
17.550	0.108	0.109	-7.073	-8.649	-0.942	56.407	6.146
17.658	0.292	0.293	-4.721	-5.910	-1.731	56.451	16.535
17.950	0.050	0.050	-4.721	-5.997	-0.301	57.075	2.861
18.000	0.292	0.293	-4.721	-6.118	-1.792	57.465	16.831
18.292	0.028	0.028	-4.721	-6.238	-0.173	58.252	1.612
18.319	0.292	0.292	-2.406	-3.246	-0.948	58.455	17.079
18.611	0.292	0.292	-2.406	-3.348	-0.978	59.496	17.383
18.903	0.123	0.123	-2.406	-3.420	-0.420	60.302	7.397
19.026	0.292	0.292	-0.346	-0.503	-0.147	60.353	17.618
19.318	0.292	0.292	-0.346	-0.516	-0.151	61.274	17.887
19.610	0.180	0.180	-0.346	-0.527	-0.095	62.179	11.201
19.790	0.292	0.292	1.278	1.983	0.579	62.150	18.147
20.082	0.078	0.078	1.278	2.012	0.158	62.584	4.900
20.160	0.292	0.292	1.278	2.053	0.599	63.334	18.492
20.452	0.238	0.238	1.278	2.117	0.503	64.438	15.309
20.689	0.292	0.293	3.778	6.420	1.878	64.575	18.891
20.981	0.289	0.289	3.778	6.610	1.912	65.702	19.007
21.270	0.150	0.150	3.778	6.708	1.006	66.274	9.937
21.420	0.292	0.294	7.153	12.605	3.708	65.213	19.186
21.712	0.038	0.039	7.153	12.597	0.489	65.243	2.530
21.750	0.292	0.294	7.153	12.716	3.741	65.678	19.322
22.042	0.048	0.048	7.153	12.855	0.621	66.212	3.198
22.090	0.292	0.297	11.111	19.849	5.905	65.496	19.484
22.382	0.292	0.297	11.111	20.139	5.991	66.324	19.730
22.674	0.028	0.028	11.111	20.298	0.571	66.761	1.878
22.701	0.292	0.302	14.953	26.918	8.133	66.004	19.943
22.993	0.292	0.302	14.953	27.199	8.218	66.810	20.186
23.285	0.091	0.095	14.953	27.384	2.589	67.276	6.361
23.376	0.292	0.308	18.635	33.425	10.297	66.716	20.553
23.668	0.292	0.308	18.635	33.646	10.365	67.618	20.830
23.960	0.030	0.032	18.635	33.768	1.078	68.187	2.177
23.990	0.080	0.086	22.173	39.006	3.349	67.061	5.759
24.070	0.292	0.315	22.173	39.192	12.354	67.536	21.289
24.362	0.292	0.315	22.173	39.533	12.462	68.242	21.511
24.654	0.004	0.004	22.173	39.706	0.169	68.926	0.294
24.658	0.292	0.322	25.023	43.669	14.068	67.964	21.894
24.950	0.292	0.322	25.023	43.914	14.147	68.727	22.140
25.242	0.138	0.152	25.023	44.094	6.703	69.095	10.504
25.379	0.021	0.023	27.105	46.725	1.084	68.335	1.586
25.400	0.292	0.328	27.105	46.438	15.228	68.807	22.563
25.692	0.018	0.020	27.105	46.127	0.937	69.082	1.404
25.710	0.292	0.328	27.105	45.533	14.931	69.073	22.651
26.002	0.242	0.272	27.105	44.481	12.109	69.280	18.860
26.244	0.206	0.234	28.272	44.820	10.471	70.292	16.422
26.450	0.292	0.331	28.272	43.764	14.505	69.338	22.982
26.742	0.269	0.306	28.272	42.577	13.015	69.154	21.140
27.011	0.292	0.336	29.629	42.601	14.306	67.618	22.707
27.303	0.292	0.336	29.629	41.254	13.854	65.651	22.047

27.595	0.138	0.158	29.629	40.262	6.377	63.486	10.055
27.733	0.292	0.341	31.061	40.346	13.749	61.628	21.001
28.025	0.105	0.123	31.061	39.346	4.845	60.379	7.434
28.130	0.291	0.340	31.061	38.336	13.040	59.179	20.129
28.421	0.292	0.346	32.491	37.730	13.058	57.239	19.809
28.713	0.292	0.346	32.491	36.114	12.498	55.686	19.272
29.005	0.119	0.141	32.491	34.977	4.921	54.985	7.737
29.124	0.292	0.353	34.211	34.670	12.238	53.241	18.793
29.416	0.292	0.353	34.211	32.897	11.612	51.464	18.166
29.708	0.176	0.213	34.211	31.476	6.707	50.443	10.749
29.884	0.292	0.359	35.547	30.529	10.953	48.185	17.287
30.176	0.292	0.359	35.547	28.633	10.272	47.150	16.916
30.468	0.285	0.351	35.547	26.757	9.384	45.545	15.973
30.753	0.292	0.364	36.715	25.166	9.164	43.215	15.737
31.045	0.292	0.364	36.715	23.159	8.433	41.249	15.021
31.337	0.292	0.364	36.715	21.152	7.703	39.515	14.389
31.629	0.292	0.364	36.715	19.145	6.972	37.547	13.673
31.921	0.081	0.101	36.715	17.863	1.807	36.583	3.701
32.002	0.292	0.367	37.303	16.657	6.113	35.334	12.967
32.294	0.292	0.367	37.303	14.594	5.356	33.868	12.429
32.586	0.292	0.367	37.303	12.531	4.599	32.615	11.969
32.878	0.292	0.367	37.303	10.468	3.842	31.326	11.496
33.169	0.292	0.367	37.303	8.406	3.085	29.843	10.952
33.461	0.292	0.367	37.303	6.343	2.328	28.450	10.440
33.753	0.292	0.367	37.303	4.280	1.571	27.237	9.995
34.045	0.292	0.367	37.303	2.217	0.814	26.139	9.592
34.337	0.168	0.211	37.303	0.593	0.125	25.288	5.335

LEGENDA SIMBOLI

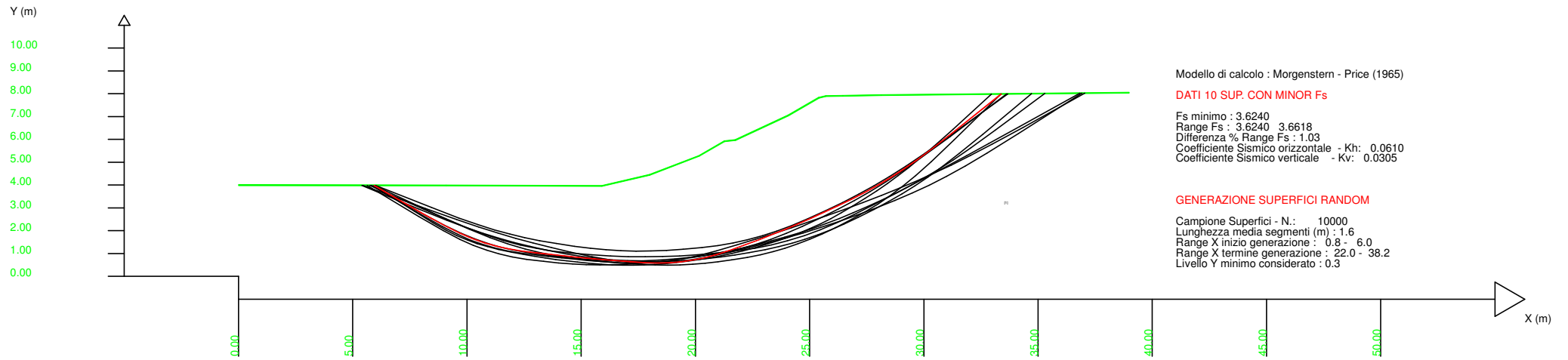
X(m) : Ascissa sinistra concio
dx(m) : Larghezza concio
dl(m) : lunghezza base concio
alpha(°) : Angolo pendenza base concio
TauStress(kPa) : Sforzo di taglio su base concio
TauF (kN/m) : Forza di taglio su base concio
TauStrength(kPa) : Resistenza al taglio su base concio
TauS (kN/m) : Forza resistente al taglio su base concio

SSAP 5.0 (2020) - Slope Stability Analysis Program
 Software by Dr.Geol. L.Borselli - www.lorenzo-borselli.eu
 SSAP/DXF generator rel. 2.0 (2020)

Data : 10/11/2020
 Localita' : San Sebastiano - S.Maria a Monte
 Descrizione : profilatura versante (Sez.1 Tav.4) lato sud stato modificato in condizioni sismiche drenate
 [n] = N. strato o lente

Parametri Geotecnici degli strati # -----

N.	phi'	C'	Cu	Gamm	GammSat	sgci	GSI	mi	D
..	deg	kPa	kPa	kN/m3	kN/m3	MPa	..	..	..
1	22.00	25.00	0	19.50	20.00	0	0	0	0



Modello di calcolo : Morgenstern - Price (1965)

DATI 10 SUP. CON MINOR Fs

Fs minimo : 3.6240
 Range Fs : 3.6240 - 3.6618
 Differenza % Range Fs : 1.03
 Coefficiente Sismico orizzontale - Kh: 0.0610
 Coefficiente Sismico verticale - Kv: 0.0305

GENERAZIONE SUPERFICI RANDOM

Campione Superfici - N.: 10000
 Lunghezza media segmenti (m) : 1.6
 Range X inizio generazione : 0.8 - 6.0
 Range X termine generazione : 22.0 - 38.2
 Livello Y minimo considerato : 0.3

Report elaborazioni

SSAP 5.0 - Slope Stability Analysis Program (1991,2020)

WWW.SSAP.EU

Build No. 11716

BY

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** Gia' Ricercatore CNR-IRPI fino a Luglio 2011

Ultima Revisione struttura tabelle del report: 12 settembre 2020

File report: D:\ssp2010prove\lavori\smontemuro\PROFILI\verifiche\modificato sismico dre.txt

Data: 10/11/2020

Localita' : San Sebastiano - S.Maria a Monte

Descrizione: profilatura versante (Sez.1 Tav.4) lato sud stato modificato in condizioni sismiche drenate

Modello pendio: PROFILOPRODRE.mod

----- PARAMETRI DEL MODELLO DEL PENDIO -----

___ PARAMETRI GEOMETRICI - Coordinate X Y (in m) ___

SUP T.		SUP 2		SUP 3		SUP 4	
X	Y	X	Y	X	Y	X	Y
0.00	4.00	-	-	-	-	-	-
9.09	3.98	-	-	-	-	-	-
15.91	3.96	-	-	-	-	-	-
18.00	4.45	-	-	-	-	-	-
20.16	5.28	-	-	-	-	-	-
21.27	5.92	-	-	-	-	-	-
21.75	5.97	-	-	-	-	-	-
24.07	7.05	-	-	-	-	-	-
25.40	7.82	-	-	-	-	-	-
25.71	7.90	-	-	-	-	-	-
26.45	7.91	-	-	-	-	-	-
28.13	7.94	-	-	-	-	-	-
38.99	8.05	-	-	-	-	-	-

ASSENZA DI FALDA

----- PARAMETRI GEOMECCANICI -----

STRATO	1	fi`	C`	Cu	Gamm	Gamm_sat	STR_IDX	sgci	GSI	mi	D
		22.00	25.00	0.00	19.50	20.00	2.277	0.00	0.00	0.00	0.00

LEGENDA: fi` _____ Angolo di attrito interno efficace(in gradi)

C` _____ Coesione efficace (in Kpa)

Cu _____ Resistenza al taglio Non drenata (in Kpa)

Gamm _____ Peso di volume terreno fuori falda (in KN/m³)
 Gamm_sat ___ Peso di volume terreno immerso (in KN/m³)
 STR_IDX ___ Indice di resistenza (usato in solo in 'SNIFF SEARCH) (adimensionale)
 ---- SOLO Per AMMASSI ROCCIOSI FRATTURATI - Parametri Criterio di Rottura di Hoek (2002)-
 sigci _____ Resistenza Compressione Uniassiale Roccia Intatta (in MPa)
 GSI _____ Geological Strenght Index ammasso(adimensionale)
 mi _____ Indice litologico ammasso(adimensionale)
 D _____ Fattore di disturbo ammasso(adimensionale)
 Fattore di riduzione NTC2018: gammaPHI=1.25 e gammaC=1.25 - DISATTIVATO (solo per ROCCE)
 Uso CRITERIO DI ROTTURA Hoek et al.(2002,2006) - non-lineare - Generalizzato, secondo Lei et al.(2016)

----- INFORMAZIONI GENERAZIONE SUPERFICI RANDOM -----

*** PARAMETRI PER LA GENERAZIONE DELLE SUPERFICI

METODO DI RICERCA: CONVEX RANDOM - Chen (1992)
 FILTRAGGIO SUPERFICI : ATTIVATO
 COORDINATE X1,X2,Y OSTACOLO : 0.00 0.00 0.00
 LUNGHEZZA MEDIA SEGMENTI (m): 1.6 (+/-) 50%
 INTERVALLO ASCISSE RANDOM STARTING POINT (Xmin .. Xmax): 0.78 6.00
 LIVELLO MINIMO CONSIDERATO (Ymin): 0.28
 INTERVALLO ASCISSE AMMESSO PER LA TERMINAZIONE (Xmin .. Xmax): 22.00 38.21

*** TOTALE SUPERFICI GENERATE : 10000

----- INFORMAZIONI PARAMETRI DI CALCOLO -----

METODO DI CALCOLO : MORGENSTERN - PRICE (Morgenstern & Price, 1965)
 METODO DI ESPLORAZIONE CAMPO VALORI (lambda0,Fs0) ADOTTATO : A (rapido)
 COEFFICIENTE SISMICO UTILIZZATO Kh : 0.0610
 COEFFICIENTE SISMICO UTILIZZATO Kv (assunto Positivo): 0.0305
 COEFFICIENTE c=Kv/Kh UTILIZZATO : 0.5000
 FORZA ORIZZONTALE ADDIZIONALE IN TESTA (kN/m): 0.00
 FORZA ORIZZONTALE ADDIZIONALE ALLA BASE (kN/m): 0.00

N.B. Le forze orizzontali addizionali in testa e alla base sono poste uguali a 0
 durante le tutte le verifiche globali.
 I valori >0 impostati dall'utente sono utilizzati solo in caso di verifica singola

----- RISULTATO FINALE ELABORAZIONI -----

* DATI RELATIVI ALLE 10 SUPERFICI GENERATE CON MINOR Fs *

Fattore di sicurezza (FS)	3.6240 - Min. -	X	Y	Lambda=	0.2136
		5.93	3.99		
		8.02	2.78		
		9.01	2.23		
		9.68	1.90		
		10.24	1.66		
		10.78	1.47		
		11.28	1.33		
		11.80	1.21		
		12.36	1.12		
		13.02	1.03		
		13.64	0.96		

14.23	0.90
14.80	0.84
15.37	0.79
15.94	0.74
16.53	0.69
17.15	0.64
17.81	0.60
18.37	0.59
18.90	0.60
19.39	0.64
19.93	0.72
20.43	0.82
20.96	0.97
21.53	1.15
22.19	1.39
22.81	1.62
23.39	1.84
23.95	2.07
24.52	2.31
25.08	2.56
25.65	2.82
26.24	3.10
26.88	3.40
27.45	3.70
28.00	4.01
28.53	4.32
29.09	4.68
29.69	5.10
30.38	5.61
31.37	6.38
33.39	7.99

Fattore di sicurezza (FS)	3.6241	- N.2 --	X	Y	Lambda= 0.2147
			5.93	3.99	
			7.68	2.86	
			8.52	2.35	
			9.09	2.03	
			9.56	1.79	
			10.02	1.59	
			10.45	1.44	
			10.90	1.30	
			11.38	1.18	
			11.94	1.07	
			12.45	0.97	
			12.94	0.88	
			13.42	0.81	
			13.89	0.74	
			14.36	0.68	
			14.84	0.62	
			15.34	0.58	
			15.87	0.53	
			16.36	0.51	

16.83	0.49
17.28	0.49
17.75	0.50
18.20	0.52
18.68	0.55
19.17	0.60
19.71	0.67
20.20	0.74
20.68	0.82
21.14	0.91
21.61	1.01
22.07	1.12
22.55	1.25
23.05	1.39
23.61	1.56
24.09	1.72
24.56	1.90
25.00	2.08
25.47	2.30
25.92	2.53
26.38	2.78
26.88	3.07
27.43	3.42
27.93	3.74
28.40	4.07
28.86	4.41
29.34	4.77
29.85	5.19
30.43	5.69
31.27	6.44
32.96	7.99

Fattore di sicurezza (FS)	3.6309	- N.3 --	X	Y	Lambda= 0.2195
			5.81	3.99	
			7.99	2.78	
			9.04	2.23	
			9.74	1.89	
			10.34	1.64	
			10.92	1.44	
			11.45	1.29	
			12.01	1.16	
			12.61	1.05	
			13.32	0.95	
			13.95	0.87	
			14.56	0.80	
			15.15	0.75	
			15.74	0.71	
			16.32	0.68	
			16.92	0.66	
			17.53	0.65	
			18.20	0.65	
			18.81	0.66	

19.40	0.69
19.97	0.73
20.56	0.78
21.13	0.85
21.73	0.94
22.35	1.04
23.05	1.17
23.66	1.31
24.24	1.45
24.79	1.62
25.37	1.82
25.92	2.04
26.50	2.29
27.12	2.58
27.83	2.94
28.45	3.27
29.04	3.61
29.60	3.97
30.19	4.36
30.82	4.82
31.54	5.38
32.59	6.23
34.71	8.01

Fattore di sicurezza (FS) 3.6343 - N.4 -- X Y Lambda= 0.2150

5.45	3.99
8.18	2.98
9.55	2.49
10.51	2.16
11.35	1.90
12.13	1.67
12.89	1.46
13.69	1.26
14.53	1.06
15.47	0.86
16.25	0.72
16.98	0.63
17.66	0.59
18.40	0.59
19.08	0.63
19.81	0.72
20.60	0.86
21.53	1.06
22.37	1.26
23.17	1.46
23.94	1.67
24.71	1.90
25.47	2.14
26.25	2.40
27.06	2.68
27.94	3.01
28.73	3.32

29.50	3.65
30.23	4.00
31.00	4.39
31.82	4.84
32.77	5.40
34.14	6.25
36.91	8.03

Fattore di sicurezza (FS) 3.6411 - N.5 -- X Y Lambda= 0.2235

5.63	3.99
7.89	2.62
8.96	2.00
9.68	1.63
10.28	1.36
10.87	1.14
11.40	0.99
11.98	0.86
12.60	0.75
13.35	0.66
14.01	0.59
14.63	0.54
15.22	0.51
15.82	0.50
16.40	0.51
17.00	0.53
17.62	0.57
18.32	0.64
18.95	0.71
19.56	0.79
20.16	0.87
20.76	0.98
21.36	1.09
21.97	1.22
22.60	1.37
23.28	1.55
23.91	1.72
24.52	1.90
25.10	2.09
25.71	2.31
26.30	2.53
26.91	2.78
27.54	3.06
28.24	3.38
28.87	3.69
29.47	4.00
30.05	4.33
30.65	4.69
31.30	5.11
32.05	5.62
33.12	6.40
35.30	8.01

Fattore di sicurezza (FS)	3.6499	- N.6	--	X	Y	Lambda=	0.2078
				5.40	3.99		
				7.88	2.95		
				9.11	2.46		
				9.96	2.14		
				10.70	1.88		
				11.39	1.67		
				12.06	1.49		
				12.76	1.31		
				13.49	1.15		
				14.31	0.99		
				15.03	0.87		
				15.71	0.78		
				16.35	0.72		
				17.03	0.69		
				17.68	0.69		
				18.36	0.71		
				19.10	0.76		
				19.96	0.85		
				20.68	0.95		
				21.36	1.07		
				21.99	1.22		
				22.67	1.41		
				23.30	1.62		
				23.98	1.88		
				24.70	2.19		
				25.53	2.58		
				26.27	2.95		
				26.97	3.33		
				27.63	3.71		
				28.32	4.13		
				29.06	4.62		
				29.91	5.22		
				31.14	6.12		
				33.62	8.00		

Fattore di sicurezza (FS)	3.6513	- N.7	--	X	Y	Lambda=	0.2109
				5.82	3.99		
				7.92	2.75		
				8.92	2.18		
				9.59	1.84		
				10.14	1.59		
				10.69	1.40		
				11.18	1.25		
				11.72	1.13		
				12.28	1.03		
				12.94	0.95		
				13.56	0.88		
				14.15	0.81		
				14.72	0.75		
				15.29	0.70		

15.86	0.65
16.44	0.60
17.04	0.56
17.67	0.52
18.24	0.50
18.79	0.49
19.32	0.50
19.88	0.53
20.42	0.58
20.99	0.64
21.59	0.72
22.27	0.83
22.85	0.95
23.40	1.08
23.92	1.23
24.47	1.42
25.00	1.62
25.55	1.86
26.15	2.15
26.84	2.50
27.43	2.83
27.99	3.17
28.51	3.53
29.07	3.94
29.65	4.42
30.33	5.03
31.33	5.98
33.39	7.99

Fattore di sicurezza (FS) 3.6602 - N.8 -- X Y Lambda= 0.2188

5.94	3.99
8.74	2.67
10.09	2.07
11.01	1.70
11.79	1.42
12.54	1.20
13.24	1.04
14.00	0.89
14.82	0.77
15.79	0.66
16.59	0.60
17.33	0.58
18.01	0.60
18.75	0.67
19.43	0.77
20.15	0.92
20.92	1.11
21.82	1.38
22.65	1.63
23.44	1.88
24.22	2.13
24.99	2.39

25.75	2.66
26.53	2.94
27.32	3.23
28.16	3.55
28.93	3.86
29.70	4.19
30.44	4.52
31.21	4.88
32.04	5.29
32.99	5.79
34.34	6.53
37.04	8.03

Fattore di sicurezza (FS) 3.6610 - N.9 -- X Y Lambda= 0.2171

6.00	3.99
8.44	3.02
9.64	2.56
10.48	2.27
11.20	2.04
11.87	1.86
12.52	1.70
13.19	1.56
13.90	1.44
14.70	1.32
15.41	1.23
16.09	1.17
16.73	1.13
17.40	1.11
18.05	1.11
18.73	1.14
19.46	1.19
20.29	1.26
20.99	1.35
21.65	1.46
22.27	1.60
22.93	1.78
23.55	1.98
24.22	2.23
24.92	2.53
25.73	2.90
26.46	3.25
27.14	3.60
27.80	3.96
28.48	4.36
29.21	4.82
30.04	5.39
31.25	6.24
33.68	8.00

Fattore di sicurezza (FS) 3.6618 - N.10 -- X Y Lambda= 0.2190

5.75	3.99
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8.55	2.74
9.90	2.17
10.82	1.82
11.59	1.57
12.34	1.37
13.03	1.23
13.77	1.11
14.55	1.02
15.47	0.94
16.29	0.89
17.06	0.87
17.80	0.86
18.56	0.87
19.30	0.90
20.08	0.95
20.90	1.02
21.82	1.12
22.60	1.24
23.34	1.38
24.02	1.55
24.76	1.78
25.45	2.03
26.18	2.34
26.94	2.70
27.81	3.15
28.64	3.57
29.44	3.99
30.23	4.40
31.00	4.82
31.87	5.28
32.83	5.81
34.19	6.56
36.83	8.03

----- ANALISI DEFICIT DI RESISTENZA -----

DATI RELATIVI ALLE 10 SUPERFICI GENERATE CON MINOR Fs *

Analisi Deficit in riferimento a FS(progetto) = 1.200

Sup N.	FS	FTR(kN/m)	FTA(kN/m)	Bilancio(kN/m)	ESITO
1	3.624	1515.0	418.1	1013.4	Surplus
2	3.624	1549.3	427.5	1036.3	Surplus
3	3.631	1645.9	453.3	1101.9	Surplus
4	3.634	1687.8	464.4	1130.5	Surplus
5	3.641	1664.4	457.1	1115.8	Surplus
6	3.650	1521.0	416.7	1020.9	Surplus
7	3.651	1617.4	443.0	1085.8	Surplus
8	3.660	1650.1	450.8	1109.1	Surplus
9	3.661	1429.1	390.4	960.7	Surplus
10	3.662	1662.1	453.9	1117.4	Surplus

Esito analisi: SURPLUS di RESISTENZA!

Valore minimo di SURPLUS di RESISTENZA (kN/m): 960.7

Note: FTR --> Forza totale Resistente lungo la superficie
di scivolamento

FTA --> Forza totale Agente lungo la superficie
di scivolamento

IMPORTANTE! : Il Deficit o il Surplus di resistenza viene espresso in kN
per metro di LARGHEZZA rispetto al fronte della scarpata

TABELLA PARAMETRI CONCI DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	alpha (°)	W (kN/m)	ru (-)	U (kPa)	phi ' (°)	(c',Cu) (kPa)
5.931	0.285	-30.02	0.47	0.00	0.00	22.00	25.00
6.216	0.285	-30.02	1.41	0.00	0.00	22.00	25.00
6.501	0.285	-30.02	2.34	0.00	0.00	22.00	25.00
6.785	0.285	-30.02	3.28	0.00	0.00	22.00	25.00
7.070	0.285	-30.02	4.22	0.00	0.00	22.00	25.00
7.354	0.285	-30.02	5.15	0.00	0.00	22.00	25.00
7.639	0.285	-30.02	6.09	0.00	0.00	22.00	25.00
7.924	0.097	-30.02	2.29	0.00	0.00	22.00	25.00
8.021	0.285	-28.92	7.33	0.00	0.00	22.00	25.00
8.306	0.285	-28.92	8.22	0.00	0.00	22.00	25.00
8.590	0.285	-28.92	9.12	0.00	0.00	22.00	25.00
8.875	0.139	-28.92	4.77	0.00	0.00	22.00	25.00
9.014	0.076	-26.48	2.71	0.00	0.00	22.00	25.00
9.090	0.285	-26.48	10.62	0.00	0.00	22.00	25.00
9.375	0.285	-26.48	11.43	0.00	0.00	22.00	25.00
9.659	0.021	-26.48	0.89	0.00	0.00	22.00	25.00
9.681	0.285	-23.36	12.24	0.00	0.00	22.00	25.00
9.965	0.272	-23.36	12.36	0.00	0.00	22.00	25.00
10.238	0.285	-19.30	13.54	0.00	0.00	22.00	25.00
10.522	0.260	-19.30	12.86	0.00	0.00	22.00	25.00
10.782	0.285	-16.02	14.57	0.00	0.00	22.00	25.00
11.067	0.209	-16.02	10.97	0.00	0.00	22.00	25.00
11.275	0.285	-12.54	15.32	0.00	0.00	22.00	25.00
11.560	0.244	-12.54	13.42	0.00	0.00	22.00	25.00
11.804	0.285	-9.45	15.94	0.00	0.00	22.00	25.00
12.089	0.274	-9.45	15.58	0.00	0.00	22.00	25.00
12.362	0.285	-6.99	16.43	0.00	0.00	22.00	25.00
12.647	0.285	-6.99	16.62	0.00	0.00	22.00	25.00
12.932	0.091	-6.99	5.34	0.00	0.00	22.00	25.00
13.023	0.285	-6.63	16.87	0.00	0.00	22.00	25.00
13.307	0.285	-6.63	17.06	0.00	0.00	22.00	25.00
13.592	0.046	-6.63	2.79	0.00	0.00	22.00	25.00
13.638	0.285	-6.24	17.27	0.00	0.00	22.00	25.00
13.923	0.285	-6.24	17.44	0.00	0.00	22.00	25.00
14.207	0.019	-6.24	1.15	0.00	0.00	22.00	25.00
14.226	0.285	-5.83	17.62	0.00	0.00	22.00	25.00
14.511	0.285	-5.83	17.78	0.00	0.00	22.00	25.00

14.795	0.005	-5.83	0.31	0.00	0.00	22.00	25.00
14.800	0.285	-5.41	17.94	0.00	0.00	22.00	25.00
15.085	0.283	-5.41	17.99	0.00	0.00	22.00	25.00
15.368	0.285	-4.99	18.23	0.00	0.00	22.00	25.00
15.653	0.257	-4.99	16.60	0.00	0.00	22.00	25.00
15.910	0.033	-4.99	2.11	0.00	0.00	22.00	25.00
15.943	0.285	-4.58	18.74	0.00	0.00	22.00	25.00
16.227	0.285	-4.58	19.25	0.00	0.00	22.00	25.00
16.512	0.019	-4.58	1.32	0.00	0.00	22.00	25.00
16.531	0.285	-4.19	19.79	0.00	0.00	22.00	25.00
16.816	0.285	-4.19	20.29	0.00	0.00	22.00	25.00
17.100	0.047	-4.19	3.40	0.00	0.00	22.00	25.00
17.147	0.285	-3.83	20.87	0.00	0.00	22.00	25.00
17.432	0.285	-3.83	21.36	0.00	0.00	22.00	25.00
17.717	0.091	-3.83	6.96	0.00	0.00	22.00	25.00
17.808	0.192	-1.48	14.79	0.00	0.00	22.00	25.00
18.000	0.285	-1.48	22.38	0.00	0.00	22.00	25.00
18.285	0.083	-1.48	6.64	0.00	0.00	22.00	25.00
18.367	0.285	1.51	23.20	0.00	0.00	22.00	25.00
18.652	0.244	1.51	20.33	0.00	0.00	22.00	25.00
18.896	0.285	4.98	24.24	0.00	0.00	22.00	25.00
19.181	0.208	4.98	17.99	0.00	0.00	22.00	25.00
19.388	0.285	8.34	25.02	0.00	0.00	22.00	25.00
19.673	0.258	8.34	22.98	0.00	0.00	22.00	25.00
19.930	0.230	11.67	20.72	0.00	0.00	22.00	25.00
20.160	0.266	11.67	24.36	0.00	0.00	22.00	25.00
20.426	0.285	14.96	26.62	0.00	0.00	22.00	25.00
20.710	0.248	14.96	23.59	0.00	0.00	22.00	25.00
20.958	0.285	17.70	27.52	0.00	0.00	22.00	25.00
21.243	0.027	17.70	2.63	0.00	0.00	22.00	25.00
21.270	0.256	17.70	24.84	0.00	0.00	22.00	25.00
21.526	0.224	19.80	21.47	0.00	0.00	22.00	25.00
21.750	0.285	19.80	27.21	0.00	0.00	22.00	25.00
22.035	0.160	19.80	15.37	0.00	0.00	22.00	25.00
22.195	0.285	20.49	27.47	0.00	0.00	22.00	25.00
22.479	0.285	20.49	27.62	0.00	0.00	22.00	25.00
22.764	0.043	20.49	4.23	0.00	0.00	22.00	25.00
22.807	0.285	21.26	27.78	0.00	0.00	22.00	25.00
23.092	0.285	21.26	27.90	0.00	0.00	22.00	25.00
23.377	0.013	21.26	1.32	0.00	0.00	22.00	25.00
23.390	0.285	22.06	28.02	0.00	0.00	22.00	25.00
23.675	0.280	22.06	27.62	0.00	0.00	22.00	25.00
23.954	0.116	22.89	11.45	0.00	0.00	22.00	25.00
24.070	0.285	22.89	28.32	0.00	0.00	22.00	25.00
24.355	0.164	22.89	16.48	0.00	0.00	22.00	25.00
24.519	0.285	23.68	28.71	0.00	0.00	22.00	25.00
24.804	0.275	23.68	27.96	0.00	0.00	22.00	25.00
25.079	0.285	24.45	29.15	0.00	0.00	22.00	25.00
25.363	0.037	24.45	3.75	0.00	0.00	22.00	25.00
25.400	0.252	24.45	25.74	0.00	0.00	22.00	25.00
25.652	0.058	25.18	5.95	0.00	0.00	22.00	25.00
25.710	0.285	25.18	28.55	0.00	0.00	22.00	25.00
25.995	0.250	25.18	24.41	0.00	0.00	22.00	25.00

26.244	0.206	25.84	19.71	0.00	0.00	22.00	25.00
26.450	0.285	25.84	26.59	0.00	0.00	22.00	25.00
26.735	0.143	25.84	13.05	0.00	0.00	22.00	25.00
26.877	0.285	27.39	25.42	0.00	0.00	22.00	25.00
27.162	0.285	27.39	24.61	0.00	0.00	22.00	25.00
27.447	0.002	27.39	0.21	0.00	0.00	22.00	25.00
27.449	0.285	29.12	23.75	0.00	0.00	22.00	25.00
27.734	0.268	29.12	21.53	0.00	0.00	22.00	25.00
28.001	0.129	30.94	10.07	0.00	0.00	22.00	25.00
28.130	0.285	30.94	21.58	0.00	0.00	22.00	25.00
28.415	0.119	30.94	8.71	0.00	0.00	22.00	25.00
28.533	0.285	32.67	20.19	0.00	0.00	22.00	25.00
28.818	0.273	32.67	18.41	0.00	0.00	22.00	25.00
29.091	0.285	34.83	18.13	0.00	0.00	22.00	25.00
29.376	0.285	34.83	17.01	0.00	0.00	22.00	25.00
29.660	0.028	34.83	1.61	0.00	0.00	22.00	25.00
29.688	0.285	36.49	15.75	0.00	0.00	22.00	25.00
29.973	0.285	36.49	14.56	0.00	0.00	22.00	25.00
30.258	0.120	36.49	5.76	0.00	0.00	22.00	25.00
30.377	0.285	37.91	12.85	0.00	0.00	22.00	25.00
30.662	0.285	37.91	11.59	0.00	0.00	22.00	25.00
30.946	0.285	37.91	10.34	0.00	0.00	22.00	25.00
31.231	0.142	37.91	4.70	0.00	0.00	22.00	25.00
31.373	0.285	38.60	8.45	0.00	0.00	22.00	25.00
31.658	0.285	38.60	7.17	0.00	0.00	22.00	25.00
31.943	0.285	38.60	5.88	0.00	0.00	22.00	25.00
32.227	0.285	38.60	4.60	0.00	0.00	22.00	25.00
32.512	0.285	38.60	3.32	0.00	0.00	22.00	25.00
32.797	0.285	38.60	2.03	0.00	0.00	22.00	25.00
33.081	0.285	38.60	0.75	0.00	0.00	22.00	25.00
33.366	0.024	38.60	0.00	0.00	0.00	22.00	25.00

 LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
 dx(m) : Larghezza concio
 alpha(°) : Angolo pendenza base concio
 W(kN/m) : Forza peso concio
 ru(-) : Coefficiente locale pressione interstiziale
 U(kPa) : Pressione totale dei pori base concio
 phi'(°) : Angolo di attrito efficace base concio
 c'/Cu (kPa) : Coesione efficace o Resistenza al taglio in condizioni non drenate

TABELLA DIAGRAMMA DELLE FORZE DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	ht (m)	yt (m)	yt' (--)	E(x) (kN/m)	T(x) (kN/m)	E' (kN)	rho(x) (--)	FS_qFEM (--)	FS_srmFEM (--)
5.931	0.000	3.987	-0.432	0.0000000000E+000	0.0000000000E+000	1.1515658506E+000	0.121	11.316	14.462
6.216	0.041	3.864	-0.432	7.1445091972E-001	8.4621204801E-004	3.8684989624E+000	0.121	11.316	14.462
6.501	0.083	3.741	-0.427	2.2022445881E+000	1.3394076842E-002	8.5185556076E+000	0.121	5.806	7.432

6.785	0.127	3.621	-0.444	5.5638623240E+000	1.0181684104E-001	1.6286499276E+001	0.121	3.905	5.017
7.070	0.159	3.488	-0.441	1.1473761846E+001	3.9101458704E-001	2.1692677578E+001	0.121	3.147	4.035
7.354	0.205	3.369	-0.423	1.7912988500E+001	8.0359046927E-001	2.5152519994E+001	0.121	2.859	3.632
7.639	0.247	3.247	-0.404	2.5792494143E+001	1.4245094363E+000	2.6122881513E+001	0.148	2.771	3.453
7.924	0.304	3.139	-0.384	3.2784124565E+001	1.9841690951E+000	2.7500602939E+001	0.172	2.711	3.324
8.021	0.321	3.101	-0.380	3.5553994848E+001	2.2248010545E+000	2.8466091564E+001	0.181	2.714	3.300
8.306	0.372	2.994	-0.359	4.3625394208E+001	2.9523775255E+000	2.8262781652E+001	0.207	2.758	3.266
8.590	0.431	2.897	-0.327	5.1643325243E+001	3.7174054913E+000	2.7807882576E+001	0.229	2.855	3.275
8.875	0.500	2.808	-0.303	5.9455761362E+001	4.5039032736E+000	2.6812037275E+001	0.248	3.002	3.309
9.014	0.537	2.768	-0.291	6.3136630243E+001	4.8899035612E+000	2.7865405174E+001	0.256	3.091	3.330
9.090	0.552	2.745	-0.284	6.5319110863E+001	5.1247775361E+000	2.8512676054E+001	0.261	3.148	3.343
9.375	0.614	2.666	-0.281	7.3327274194E+001	6.0245519168E+000	2.9230464174E+001	0.281	3.402	3.396
9.659	0.676	2.586	-0.280	8.1959319936E+001	7.0578594876E+000	2.8928286781E+001	0.302	3.760	3.448
9.681	0.681	2.580	-0.247	8.2576914732E+001	7.1348955305E+000	2.8833231221E+001	0.303	3.791	3.452
9.965	0.734	2.510	-0.248	9.0822486035E+001	8.2051988277E+000	3.0110513064E+001	0.324	4.274	3.486
10.238	0.784	2.442	-0.248	9.9318346141E+001	9.3759093763E+000	3.1963571630E+001	0.346	4.959	3.503
10.522	0.813	2.372	-0.245	1.0864276243E+002	1.0732064290E+001	3.3287575008E+001	0.373	6.006	3.501
10.782	0.841	2.309	-0.215	1.1742249658E+002	1.2070258873E+001	3.1452580147E+001	0.397	7.451	3.478
11.067	0.869	2.255	-0.183	1.2565275986E+002	1.3405436464E+001	2.8346702179E+001	0.421	9.407	3.428
11.275	0.892	2.218	-0.166	1.3147865740E+002	1.4382643862E+001	2.7818246354E+001	0.437	11.355	3.383
11.560	0.910	2.173	-0.146	1.3935323996E+002	1.5755802210E+001	2.5849486962E+001	0.460	14.231	3.305
11.804	0.933	2.141	-0.124	1.4528017342E+002	1.6819648208E+001	2.4143221571E+001	0.477	16.240	3.238
12.089	0.946	2.108	-0.111	1.5210247543E+002	1.8062563777E+001	2.3106240571E+001	0.497	16.997	3.158
12.362	0.964	2.079	-0.098	1.5820092397E+002	1.9177530474E+001	2.1741061543E+001	0.514	16.176	3.088
12.647	0.972	2.053	-0.087	1.6423061245E+002	2.0274354811E+001	2.0415773911E+001	0.530	14.692	3.023
12.932	0.984	2.030	-0.079	1.6982313921E+002	2.1279270597E+001	1.8134620670E+001	0.544	13.163	2.969
13.023	0.989	2.023	-0.071	1.7142640155E+002	2.1564396706E+001	1.7818035525E+001	0.548	12.721	2.954
13.307	1.001	2.003	-0.067	1.7664641921E+002	2.2476332336E+001	1.7474198863E+001	0.560	11.417	2.913
13.592	1.017	1.985	-0.061	1.8137404798E+002	2.3291461066E+001	1.4804607965E+001	0.569	10.422	2.881
13.638	1.020	1.983	-0.056	1.8204534095E+002	2.3406015930E+001	1.4664442512E+001	0.571	10.297	2.877
13.923	1.035	1.967	-0.056	1.8648759012E+002	2.4167149161E+001	1.5487886340E+001	0.579	9.568	2.853
14.207	1.050	1.951	-0.055	1.9086222683E+002	2.4928527076E+001	1.7410905518E+001	0.588	8.956	2.834
14.226	1.051	1.950	-0.057	1.9118932090E+002	2.4987890097E+001	1.7511003243E+001	0.588	8.909	2.834
14.511	1.064	1.934	-0.054	1.9602744212E+002	2.5875183384E+001	1.6973249109E+001	0.599	8.274	2.821
14.795	1.078	1.919	-0.052	2.0085178853E+002	2.6795420134E+001	1.7357957070E+001	0.610	7.705	2.815
14.800	1.079	1.919	-0.043	2.0093877321E+002	2.6813203947E+001	1.7374083109E+001	0.610	7.695	2.815
15.085	1.093	1.906	-0.040	2.0602853500E+002	2.7871337283E+001	1.8144280873E+001	0.624	7.142	2.823
15.368	1.110	1.896	-0.027	2.1123868686E+002	2.9008520226E+001	1.8348553106E+001	0.638	6.646	2.839
15.653	1.130	1.891	-0.012	2.1644505720E+002	3.0241104974E+001	1.7945966996E+001	0.655	6.219	2.873
15.910	1.151	1.890	-0.005	2.2098283760E+002	3.1364877540E+001	1.7682818462E+001	0.669	5.893	2.914
15.943	1.153	1.890	0.017	2.2155891178E+002	3.1509164293E+001	1.7575729980E+001	0.671	5.854	2.919
16.227	1.182	1.895	0.027	2.2627980819E+002	3.2774982354E+001	1.6777812636E+001	0.681	5.558	2.986
16.512	1.214	1.905	0.034	2.3111012206E+002	3.4129988763E+001	1.6738773806E+001	0.692	5.278	3.071
16.531	1.216	1.905	0.053	2.3143106735E+002	3.4220822648E+001	1.6660214182E+001	0.693	5.260	3.077
16.816	1.253	1.921	0.059	2.3590737516E+002	3.5567871296E+001	1.5491213265E+001	0.705	5.025	3.186
17.100	1.292	1.939	0.065	2.4024984717E+002	3.6923898521E+001	1.3937011428E+001	0.716	4.818	3.311
17.147	1.298	1.942	0.079	2.4089397335E+002	3.7130094159E+001	1.3914086528E+001	0.718	4.788	3.332
17.432	1.341	1.965	0.091	2.4519035983E+002	3.8544378372E+001	1.4941012988E+001	0.730	4.609	3.485
17.717	1.388	1.994	0.101	2.4939953722E+002	4.0011273286E+001	1.3109916454E+001	0.743	4.461	3.668
17.808	1.404	2.003	0.112	2.5054722661E+002	4.0437138332E+001	1.2575741557E+001	0.746	4.426	3.727
18.000	1.431	2.026	0.131	2.5296553812E+002	4.1362485097E+001	1.2348344009E+001	0.755	4.366	3.864
18.285	1.478	2.066	0.141	2.5638095149E+002	4.2780133254E+001	9.8635802065E+000	0.764	4.316	4.099
18.367	1.492	2.078	0.167	2.5714662626E+002	4.3136903901E+001	9.2083006687E+000	0.766	4.315	4.165

18.652	1.534	2.127	0.191	2.5973470460E+002	4.4464596950E+001	8.4643748111E+000	0.776	4.336	4.432
18.896	1.579	2.178	0.220	2.6166676057E+002	4.5635503068E+001	6.5334602296E+000	0.785	4.386	4.702
19.181	1.619	2.243	0.245	2.6306341309E+002	4.6823284676E+001	3.6742850282E+000	0.796	4.460	5.018
19.388	1.657	2.299	0.295	2.6363970012E+002	4.7647938936E+001	1.5182415276E+000	0.803	4.520	5.265
19.673	1.705	2.389	0.329	2.6358148931E+002	4.8654387107E+001	-2.0725158597E+000	0.814	4.577	5.604
19.930	1.756	2.477	0.352	2.6261225455E+002	4.9341736234E+001	-5.1483117803E+000	0.821	4.593	5.862
20.160	1.791	2.560	0.354	2.6114655403E+002	4.9781423869E+001	-7.3452592040E+000	0.826	4.570	6.042
20.426	1.829	2.653	0.356	2.5889767660E+002	5.0051973790E+001	-9.7570762712E+000	0.825	4.508	6.165
20.710	1.856	2.756	0.359	2.5572486383E+002	5.0097699284E+001	-1.1964834276E+001	0.822	4.403	6.208
20.958	1.878	2.844	0.357	2.5258238170E+002	4.9974807669E+001	-1.3651513540E+001	0.818	4.301	6.187
21.243	1.889	2.946	0.356	2.4837819898E+002	4.9600579665E+001	-1.5109735652E+001	0.811	4.169	6.090
21.270	1.890	2.955	0.350	2.4796960573E+002	4.9556268680E+001	-1.5270969428E+001	0.811	4.156	6.079
21.526	1.898	3.045	0.353	2.4374562580E+002	4.9037891302E+001	-1.7563732732E+001	0.813	4.035	5.944
21.750	1.897	3.125	0.379	2.3960335279E+002	4.8453948746E+001	-1.9149020663E+001	0.815	3.922	5.796
22.035	1.907	3.238	0.390	2.3391720672E+002	4.7572195976E+001	-1.9955436340E+001	0.806	3.778	5.579
22.195	1.910	3.298	0.397	2.3072579697E+002	4.7056743407E+001	-2.0663712349E+001	0.801	3.702	5.457
22.479	1.920	3.414	0.406	2.2447945173E+002	4.6006917171E+001	-2.1934893706E+001	0.790	3.559	5.211
22.764	1.929	3.529	0.406	2.1823878290E+002	4.4931680627E+001	-2.2521140024E+001	0.778	3.426	4.969
22.807	1.930	3.547	0.420	2.1725690785E+002	4.4760172088E+001	-2.2642773901E+001	0.776	3.405	4.931
23.092	1.939	3.667	0.408	2.1075466995E+002	4.3618586135E+001	-2.2150862410E+001	0.764	3.273	4.680
23.377	1.941	3.780	0.397	2.0464694793E+002	4.2529381916E+001	-2.2312838771E+001	0.752	3.155	4.451
23.390	1.942	3.785	0.402	2.0434704151E+002	4.2475131133E+001	-2.2333366067E+001	0.752	3.149	4.440
23.675	1.941	3.899	0.436	1.9810951975E+002	4.1340053675E+001	-2.3976119614E+001	0.739	3.035	4.216
23.954	1.959	4.031	0.480	1.9083790060E+002	3.9973772380E+001	-2.7393152805E+001	0.724	2.912	3.976
24.070	1.968	4.089	0.498	1.8760320003E+002	3.9348873822E+001	-2.8109541792E+001	0.717	2.863	3.879
24.355	1.989	4.231	0.493	1.7950326784E+002	3.7762114602E+001	-2.9036354264E+001	0.695	2.747	3.657
24.519	2.000	4.310	0.490	1.7467282927E+002	3.6799860177E+001	-2.9073712685E+001	0.682	2.685	3.539
24.804	2.015	4.451	0.474	1.6654385959E+002	3.5119452931E+001	-2.8625494914E+001	0.659	2.595	3.371
25.079	2.020	4.576	0.423	1.5865140934E+002	3.3440987053E+001	-2.7940638566E+001	0.634	2.521	3.236
25.363	2.002	4.688	0.390	1.5091907373E+002	3.1716859360E+001	-2.6253758753E+001	0.609	2.466	3.136
25.400	1.999	4.701	0.343	1.4996436507E+002	3.1501286638E+001	-2.6145848920E+001	0.606	2.460	3.125
25.652	1.970	4.787	0.335	1.4337228748E+002	2.9963108132E+001	-2.5571556503E+001	0.588	2.426	3.066
25.710	1.961	4.805	0.314	1.4188564375E+002	2.9611231811E+001	-2.5912103335E+001	0.584	2.419	3.055
25.995	1.916	4.894	0.306	1.3383308134E+002	2.7607357108E+001	-2.8564472451E+001	0.565	2.397	3.020
26.244	1.873	4.969	0.287	1.2664630718E+002	2.5775686032E+001	-2.8529596830E+001	0.545	2.383	3.003
26.450	1.830	5.025	0.276	1.2081988742E+002	2.4260096540E+001	-2.8725705945E+001	0.527	2.378	3.002
26.735	1.771	5.104	0.283	1.1247697497E+002	2.2076122576E+001	-3.0614407552E+001	0.500	2.375	3.012
26.877	1.744	5.146	0.294	1.0801388273E+002	2.0913378450E+001	-3.1187034185E+001	0.484	2.375	3.023
27.162	1.680	5.229	0.281	9.9182947727E+001	1.8627888530E+001	-2.9360985972E+001	0.452	2.378	3.052
27.447	1.609	5.306	0.268	9.1299370694E+001	1.6630387198E+001	-2.3308500185E+001	0.422	2.384	3.089
27.449	1.608	5.306	0.255	9.1243088767E+001	1.6616591327E+001	-2.3284393591E+001	0.422	2.384	3.090
27.734	1.522	5.379	0.266	8.4173928315E+001	1.4911222263E+001	-2.5191589991E+001	0.398	2.391	3.131
28.001	1.447	5.453	0.289	7.7343357695E+001	1.3323525991E+001	-2.6831606354E+001	0.373	2.400	3.176
28.130	1.411	5.494	0.320	7.3809238506E+001	1.2532702671E+001	-2.7347444270E+001	0.360	2.406	3.201
28.415	1.332	5.585	0.323	6.6095617641E+001	1.0852696747E+001	-2.6610879468E+001	0.331	2.421	3.257
28.533	1.299	5.624	0.357	6.2965146825E+001	1.0186153933E+001	-2.6855818623E+001	0.318	2.427	3.281
28.818	1.222	5.729	0.383	5.5014405835E+001	8.5744078276E+000	-2.8025131742E+001	0.287	2.449	3.345
29.091	1.155	5.838	0.392	4.7332283723E+001	7.0743224723E+000	-2.6875195504E+001	0.254	2.472	3.412
29.376	1.068	5.948	0.391	4.0049813944E+001	5.7238931484E+000	-2.4539914960E+001	0.223	2.500	3.481
29.660	0.982	6.060	0.398	3.3362292923E+001	4.5576095848E+000	-2.5017889234E+001	0.193	2.530	3.547
29.688	0.975	6.073	0.421	3.2657645489E+001	4.4404250747E+000	-2.4870316959E+001	0.190	2.533	3.554
29.973	0.883	6.192	0.425	2.6439163347E+001	3.4561563948E+000	-2.1094216680E+001	0.163	2.564	3.618
30.258	0.795	6.315	0.425	2.0649208890E+001	2.6056325494E+000	-1.7867273632E+001	0.136	2.594	3.677

30.377	0.756	6.363	0.429	1.8637228829E+001	2.3375311047E+000	-1.6766925946E+001	0.128	2.603	3.694
30.662	0.659	6.488	0.453	1.3906107882E+001	1.7366603315E+000	-1.5977316765E+001	0.121	2.619	3.726
30.946	0.570	6.621	0.486	9.5417218322E+000	1.2252668786E+000	-1.4606964442E+001	0.121	2.620	3.730
31.231	0.492	6.765	0.512	5.5907099196E+000	7.9433353296E-001	-1.3189529439E+001	0.121	2.599	3.699
31.373	0.457	6.840	0.519	3.7621948449E+000	6.0369182341E-001	-1.1648435304E+001	0.121	2.582	3.671
31.658	0.375	6.986	0.528	1.1268565112E+000	3.5448248493E-001	-9.4837850385E+000	0.121	2.538	3.594
31.943	0.303	7.141	0.551	-1.6366987516E+000	1.1044519828E-001	-7.8691470221E+000	0.121	2.470	3.479
32.227	0.235	7.300	0.586	-3.3528620079E+000	-6.6318082690E-003	-4.5277350814E+000	0.121	2.358	3.292
32.512	0.182	7.475	0.596	-4.2142308064E+000	-4.4685946045E-002	-1.0016595091E+000	0.121	2.220	3.050
32.797	0.120	7.639	0.586	-3.9230829785E+000	-2.7543533677E-002	2.8131509899E+000	0.121	2.197	2.940
33.081	0.062	7.808	0.596	-2.6127707560E+000	-1.0169581619E-002	6.4607673237E+000	0.121	2.815	3.670
33.366	0.005	7.979	0.596	-2.4512157481E-001	-5.5566866393E-004	1.0078112570E+001	0.121	38.350	50.000

 LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
 ht(m) : Altezza linea di thrust da nodo sinistro base concio
 yt(m) : coordinata Y linea di trust
 yt'(-) : gradiente pendenza locale linea di trust
 E(x) (kN/m) : Forza Normale interconcio
 T(x) (kN/m) : Forza Tangenziale interconcio
 E' (kN) : derivata Forza normale interconcio
 Rho(x) (-) : fattore mobilizzazione resistenza al taglio verticale interconcio ZhU et al.(2003)
 FS_qFEM(x) (-) : fattore di sicurezza locale stimato (locale in X) by qFEM
 FS_srmFEM(x) (-) : fattore di sicurezza locale stimato (locale in X) by SRM Procedure

TABELLA SFORZI DI TAGLIO DISTRIBUITI LUNGO SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	dl (m)	alpha (°)	TauStress (kPa)	TauF (kN/m)	TauStrength (kPa)	TauS (kN/m)
5.931	0.285	0.329	-30.018	-0.638	-0.210	25.522	8.390
6.216	0.285	0.329	-30.018	-1.913	-0.629	26.631	8.755
6.501	0.285	0.329	-30.018	-3.189	-1.048	28.163	9.258
6.785	0.285	0.329	-30.018	-4.464	-1.468	30.516	10.032
7.070	0.285	0.329	-30.018	-5.740	-1.887	32.360	10.638
7.354	0.285	0.329	-30.018	-7.015	-2.306	34.763	11.428
7.639	0.285	0.329	-30.018	-8.291	-2.725	35.393	11.635
7.924	0.097	0.112	-30.018	-9.146	-1.027	37.040	4.157
8.021	0.285	0.325	-28.918	-9.693	-3.152	37.949	12.341
8.306	0.285	0.325	-28.918	-10.878	-3.537	39.199	12.747
8.590	0.285	0.325	-28.918	-12.063	-3.923	40.345	13.120
8.875	0.139	0.159	-28.918	-12.944	-2.054	41.124	6.525
9.014	0.076	0.085	-26.478	-12.442	-1.060	42.300	3.604
9.090	0.285	0.318	-26.478	-13.071	-4.156	43.044	13.688
9.375	0.285	0.318	-26.478	-14.063	-4.472	44.819	14.252
9.659	0.021	0.024	-26.478	-14.596	-0.349	45.265	1.084
9.681	0.285	0.310	-23.364	-13.447	-4.169	46.272	14.347
9.965	0.272	0.297	-23.364	-14.198	-4.211	48.006	14.239
10.238	0.285	0.302	-19.298	-12.255	-3.696	49.590	14.955
10.522	0.260	0.275	-19.298	-12.745	-3.511	50.859	14.010

10.782	0.285	0.296	-16.018	-10.694	-3.167	50.705	15.015
11.067	0.209	0.217	-16.018	-10.988	-2.384	51.232	11.118
11.275	0.285	0.292	-12.540	-8.280	-2.414	51.567	15.037
11.560	0.244	0.250	-12.540	-8.459	-2.114	51.487	12.869
11.804	0.285	0.289	-9.452	-5.747	-1.658	51.519	14.866
12.089	0.274	0.278	-9.452	-5.842	-1.621	51.596	14.319
12.362	0.285	0.287	-6.986	-3.499	-1.003	51.363	14.729
12.647	0.285	0.287	-6.986	-3.540	-1.015	51.368	14.731
12.932	0.091	0.092	-6.986	-3.568	-0.326	51.222	4.687
13.023	0.285	0.287	-6.632	-3.232	-0.926	51.408	14.731
13.307	0.285	0.287	-6.632	-3.268	-0.936	51.391	14.726
13.592	0.046	0.047	-6.632	-3.288	-0.153	51.227	2.386
13.638	0.285	0.286	-6.239	-2.897	-0.830	51.495	14.745
13.923	0.285	0.286	-6.239	-2.926	-0.838	51.741	14.815
14.207	0.019	0.019	-6.239	-2.942	-0.055	52.274	0.980
14.226	0.285	0.286	-5.833	-2.521	-0.721	52.293	14.962
14.511	0.285	0.286	-5.833	-2.544	-0.728	52.610	15.053
14.795	0.005	0.005	-5.833	-2.556	-0.013	52.969	0.267
14.800	0.285	0.286	-5.411	-2.107	-0.602	53.135	15.192
15.085	0.283	0.284	-5.411	-2.124	-0.604	53.568	15.232
15.368	0.285	0.286	-4.989	-1.671	-0.477	53.914	15.404
15.653	0.257	0.258	-4.989	-1.683	-0.435	54.125	13.981
15.910	0.033	0.033	-4.989	-1.691	-0.055	54.301	1.775
15.943	0.285	0.286	-4.580	-1.250	-0.357	54.627	15.599
16.227	0.285	0.286	-4.580	-1.285	-0.367	55.569	15.868
16.512	0.019	0.019	-4.580	-1.303	-0.025	55.937	1.077
16.531	0.285	0.285	-4.186	-0.843	-0.241	56.219	16.045
16.816	0.285	0.285	-4.186	-0.864	-0.247	56.951	16.254
17.100	0.047	0.047	-4.186	-0.877	-0.041	57.117	2.689
17.147	0.285	0.285	-3.829	-0.432	-0.123	57.812	16.492
17.432	0.285	0.285	-3.829	-0.442	-0.126	58.628	16.725
17.717	0.091	0.091	-3.829	-0.449	-0.041	58.773	5.377
17.808	0.192	0.192	-1.484	2.700	0.519	58.521	11.250
18.000	0.285	0.285	-1.484	2.759	0.785	59.281	16.879
18.285	0.083	0.083	-1.484	2.812	0.233	59.558	4.936
18.367	0.285	0.285	1.513	7.121	2.028	59.298	16.884
18.652	0.244	0.244	1.513	7.287	1.777	60.107	14.656
18.896	0.285	0.286	4.979	12.517	3.576	59.327	16.951
19.181	0.208	0.208	4.979	12.733	2.654	59.896	12.485
19.388	0.285	0.288	8.336	17.862	5.139	59.024	16.980
19.673	0.258	0.260	8.336	18.125	4.719	59.640	15.526
19.930	0.230	0.234	11.666	23.150	5.428	58.895	13.808
20.160	0.266	0.271	11.666	23.508	6.382	59.727	16.214
20.426	0.285	0.295	14.956	28.639	8.438	59.606	17.561
20.710	0.248	0.257	14.956	29.146	7.478	60.565	15.540
20.958	0.285	0.299	17.703	33.356	9.966	60.655	18.123
21.243	0.027	0.028	17.703	33.634	0.953	61.168	1.733
21.270	0.256	0.269	17.703	33.468	8.996	61.256	16.465
21.526	0.224	0.238	19.798	35.729	8.503	60.615	14.427
21.750	0.285	0.303	19.798	35.626	10.778	60.910	18.427
22.035	0.160	0.170	19.798	35.802	6.089	61.174	10.404
22.195	0.285	0.304	20.485	36.800	11.182	61.507	18.689
22.479	0.285	0.304	20.485	37.001	11.243	61.764	18.767

22.764	0.043	0.046	20.485	37.116	1.720	62.012	2.875
22.807	0.285	0.305	21.258	38.144	11.650	61.935	18.916
23.092	0.285	0.305	21.258	38.315	11.702	61.925	18.913
23.377	0.013	0.014	21.258	38.404	0.553	62.192	0.895
23.390	0.285	0.307	22.064	39.425	12.109	61.961	19.030
23.675	0.280	0.302	22.064	39.562	11.938	62.898	18.979
23.954	0.116	0.126	22.887	40.595	5.096	63.236	7.939
24.070	0.285	0.309	22.887	40.799	12.605	63.566	19.640
24.355	0.164	0.179	22.887	41.089	7.335	64.067	11.437
24.519	0.285	0.311	23.680	42.259	13.134	64.132	19.933
24.804	0.275	0.300	23.680	42.590	12.793	64.589	19.402
25.079	0.285	0.313	24.453	43.760	13.683	64.574	20.191
25.363	0.037	0.040	24.453	43.931	1.763	64.544	2.590
25.400	0.252	0.276	24.453	43.738	12.085	64.618	17.854
25.652	0.058	0.065	25.184	44.253	2.859	64.098	4.142
25.710	0.285	0.315	25.184	43.630	13.723	64.727	20.359
25.995	0.250	0.276	25.184	42.564	11.735	64.260	17.717
26.244	0.206	0.229	25.841	42.281	9.671	63.458	14.515
26.450	0.285	0.316	25.841	41.261	13.049	63.065	19.945
26.735	0.143	0.159	25.841	40.377	6.403	62.947	9.983
26.877	0.285	0.321	27.389	40.775	13.071	61.877	19.836
27.162	0.285	0.321	27.389	39.469	12.653	59.819	19.176
27.447	0.002	0.003	27.389	38.810	0.106	57.848	0.158
27.449	0.285	0.326	29.124	39.366	12.827	57.240	18.651
27.734	0.268	0.306	29.124	37.955	11.626	56.278	17.239
28.001	0.129	0.150	30.939	38.022	5.705	55.404	8.314
28.130	0.285	0.332	30.939	36.838	12.225	54.391	18.050
28.415	0.119	0.138	30.939	35.678	4.931	53.343	7.373
28.533	0.285	0.338	32.674	35.297	11.936	52.215	17.656
28.818	0.273	0.325	32.674	33.536	10.887	51.007	16.558
29.091	0.285	0.347	34.832	32.481	11.263	48.373	16.774
29.376	0.285	0.347	34.832	30.481	10.570	46.427	16.099
29.660	0.028	0.034	34.832	29.382	1.002	45.991	1.569
29.688	0.285	0.354	36.494	28.641	10.141	43.887	15.539
29.973	0.285	0.354	36.494	26.481	9.376	42.155	14.925
30.258	0.120	0.149	36.494	24.947	3.710	40.319	5.996
30.377	0.285	0.361	37.908	23.590	8.510	38.989	14.066
30.662	0.285	0.361	37.908	21.292	7.681	37.463	13.515
30.946	0.285	0.361	37.908	18.994	6.852	35.984	12.982
31.231	0.142	0.180	37.908	17.270	3.116	34.931	6.303
31.373	0.285	0.364	38.603	15.580	5.675	33.299	12.128
31.658	0.285	0.364	38.603	13.214	4.813	32.213	11.733
31.943	0.285	0.364	38.603	10.848	3.951	30.477	11.100
32.227	0.285	0.364	38.603	8.481	3.089	28.996	10.561
32.512	0.285	0.364	38.603	6.115	2.227	27.643	10.068
32.797	0.285	0.364	38.603	3.749	1.365	26.584	9.683
33.081	0.285	0.364	38.603	1.382	0.504	25.567	9.312
33.366	0.024	0.031	38.603	0.100	0.003	25.009	0.767

 LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
 dx(m) : Larghezza concio
 dl(m) : lunghezza base concio

alpha(°) : Angolo pendenza base concio
TauStress(kPa) : Sforzo di taglio su base concio
TauF (kN/m) : Forza di taglio su base concio
TauStrength(kPa) : Resistenza al taglio su base concio
TauS (kN/m) : Forza resistente al taglio su base concio
