




PROGRAMMA REGIONALE DEGLI STUDI E INDAGINI DI MICROZONAZIONE SISMICA – REALIZZAZIONE STUDI DI APPROFONDIMENTO DI LIVELLO 3 SULLE AREE DI ATTENZIONE PER INSTABILITÀ DI VERSANTE - ANNUALITÀ 2021. (O.C.D.P.C. n. 780 del 20/05/2021)

MICROZONAZIONE SISMICA

ALL. 4 - Verifiche di stabilità

Regione Marche
Comune di Ancona



<p>Regione</p> 	<p>Soggetto realizzatore</p> <p>Dott.Geol. Maurizio Mainiero Dott.Geol. Marco Gaggiotti Dott.Geol. Vincenzo Francesco Pedicini</p>	<p>Data</p> <p>Gennaio 2023</p>
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Verifica di stabilità F-13-0113 - Condizioni statiche - Superfici circolari

Analisi di stabilità dei pendii con: JANBU (1967)

Calcolo eseguito secondo	Utente
Numero di strati	2.0
Numero dei conci	30.0
Grado di sicurezza ritenuto accettabile	1.1
Coefficiente parziale resistenza	1.0
Analisi	Condizione drenata
Superficie di forma circolare	

Maglia dei Centri

Ascissa vertice sinistro inferiore xi	128.9 m
Ordinata vertice sinistro inferiore yi	571.09 m
Ascissa vertice destro superiore xs	483.64 m
Ordinata vertice destro superiore ys	943.62 m
Passo di ricerca	10.0
Numero di celle lungo x	10.0
Numero di celle lungo y	10.0

Vertici profilo

Nr	X (m)	y (m)
1	0.0	0.0
2	0.0	200.0
3	82.84	210.16
4	151.75	220.16
5	260.54	230.16
6	325.93	240.16
7	406.81	250.16
8	462.11	260.16
9	530.72	270.16
10	557.42	280.16
11	668.66	290.14
12	737.77	300.16

Falda

Nr.	X (m)	y (m)
1	0.0	0.0
2	0.0	197.0
3	82.84	207.16
4	151.75	217.16
5	260.54	227.16

6	325.93	237.16
7	406.81	247.16
8	462.11	257.16
9	530.72	267.16
10	557.42	277.16
11	668.66	287.14
12	737.77	297.16

Vertici strato1

N	X (m)	y (m)
1	0.0	0.0
2	0.0	190.3
3	94.77	201.89
4	213.77	210.86
5	261.42	220.0
6	264.03	220.28
7	362.7	237.72
8	420.77	242.69
9	450.77	248.11
10	503.77	253.23
11	515.5	256.41
12	549.77	267.29
13	671.05	279.3
14	737.77	288.73

Coefficienti parziali azioni

Sfavorevoli: Permanenti, variabili	1.0	1.0
Favorevoli: Permanenti, variabili	1.0	1.0

Coefficienti parziali per i parametri geotecnici del terreno

Tangente angolo di resistenza al taglio	1.25
Coesione efficace	1.25
Coesione non drenata	1.4
Riduzione parametri geotecnici terreno	No

Stratigrafia

Strato	Coesione (kg/cm ²)	Coesione non drenata (kg/cm ²)	Angolo resistenza al taglio (°)	Peso unità di volume (Kg/m ³)	Peso saturo (Kg/m ³)	Litologia
1	0,13		24,4	2030	2230	SUBSTRATO GEOLOGICO

						ALTERATO E DECOMPRRESSO - Argilla limoso-marnosa con sabbia	
2	0,35		26	2100	2300	SUBSTRATO GEOLOGICO - Argilla marnosa con intercalazioni sabbiose	

G0: Modulo di taglio dinamico a basse deformazioni; G: Modulo di taglio dinamico; Dr: Densità relativa; OCR: Grado di sovraconsolidazione; IP: Indice di plasticità

Strato	G0 (KPa)	G (KPa)	Dr (%)	OCR	IP (%)
1	11520	8640	0	1	34
2	627200	470400	0	4	44

Carichi distribuiti

N°	xi (m)	yi (m)	xf (m)	yf (m)	Carico esterno (kg/cm ²)
1	32.34	204.01	52.34	206.4633	0.3
2	70.27	208.73	90.27	211.1833	0.3
3	110.46	214.11	130.46	217.0121	0.3
4	147.26	219	167.26	221.9021	0.3
5	182.85	222.99	202.85	224.8285	0.3
6	224.43	226.77	244.43	228.6085	0.3
7	262.97	230.27	282.97	233.3288	0.3

Risultati analisi pendio [STATICA]

Fs minimo individuato	3.83
Ascissa centro superficie	221.23 m
Ordinata centro superficie	1223.67 m
Raggio superficie	1010.02 m

Numero di superfici esaminate....(605)

N°	Xo	Yo	Ro	Fs
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1	162.3	1249.8	1046.3	4.34
2	239.5	670.4	492.5	4.30
3	162.3	1249.8	1046.3	4.34
4	239.5	670.4	492.5	4.30
5	165.3	1248.2	1044.2	4.40
6	205.1	950.3	753.7	4.31
7	242.5	670.5	492.1	4.26
8	162.3	1249.8	1046.3	4.34
9	239.5	670.4	492.5	4.30
10	165.3	1248.2	1044.2	4.40
11	205.1	950.3	753.7	4.31
12	242.5	670.5	492.1	4.26
13	168.2	1247.2	1042.7	4.37
14	208.0	950.2	753.1	4.31
15	245.4	670.6	491.7	4.25
16	256.0	592.0	423.1	4.33
17	162.3	1249.8	1046.3	4.34
18	239.5	670.4	492.5	4.30
19	165.3	1248.2	1044.2	4.40
20	205.1	950.3	753.7	4.31
21	242.5	670.5	492.1	4.26
22	168.2	1247.2	1042.7	4.37
23	208.0	950.2	753.1	4.31
24	245.4	670.6	491.7	4.25
25	256.0	592.0	423.1	4.33
26	171.1	1245.8	1040.7	4.34
27	211.0	949.5	751.9	4.28
28	162.3	1249.8	1046.3	4.34
29	239.5	670.4	492.5	4.30
30	165.3	1248.2	1044.2	4.40
31	205.1	950.3	753.7	4.31
32	242.5	670.5	492.1	4.26
33	168.2	1247.2	1042.7	4.37
34	208.0	950.2	753.1	4.31
35	245.4	670.6	491.7	4.25
36	256.0	592.0	423.1	4.33
37	171.1	1245.8	1040.7	4.34
38	211.0	949.5	751.9	4.28
39	174.1	1244.1	1038.5	4.29
40	213.9	949.1	751.0	4.23
41	251.4	671.0	491.1	4.24
42	162.3	1249.8	1046.3	4.34
43	239.5	670.4	492.5	4.30
44	165.3	1248.2	1044.2	4.40
45	205.1	950.3	753.7	4.31
46	242.5	670.5	492.1	4.26
47	168.2	1247.2	1042.7	4.37
48	208.0	950.2	753.1	4.31

49	245.4	670.6	491.7	4.25
50	256.0	592.0	423.1	4.33
51	171.1	1245.8	1040.7	4.34
52	211.0	949.5	751.9	4.28
53	174.1	1244.1	1038.5	4.29
54	213.9	949.1	751.0	4.23
55	251.4	671.0	491.1	4.24
56	177.0	1243.0	1036.9	4.27
57	254.4	671.1	490.7	4.24
58	162.3	1249.8	1046.3	4.34
59	239.5	670.4	492.5	4.30
60	165.3	1248.2	1044.2	4.40
61	205.1	950.3	753.7	4.31
62	242.5	670.5	492.1	4.26
63	168.2	1247.2	1042.7	4.37
64	208.0	950.2	753.1	4.31
65	245.4	670.6	491.7	4.25
66	256.0	592.0	423.1	4.33
67	171.1	1245.8	1040.7	4.34
68	211.0	949.5	751.9	4.28
69	174.1	1244.1	1038.5	4.29
70	213.9	949.1	751.0	4.23
71	251.4	671.0	491.1	4.24
72	177.0	1243.0	1036.9	4.27
73	254.4	671.1	490.7	4.24
74	180.0	1241.6	1035.0	4.20
75	162.3	1249.8	1046.3	4.34
76	239.5	670.4	492.5	4.30
77	165.3	1248.2	1044.2	4.40
78	205.1	950.3	753.7	4.31
79	242.5	670.5	492.1	4.26
80	168.2	1247.2	1042.7	4.37
81	208.0	950.2	753.1	4.31
82	245.4	670.6	491.7	4.25
83	256.0	592.0	423.1	4.33
84	171.1	1245.8	1040.7	4.34
85	211.0	949.5	751.9	4.28
86	174.1	1244.1	1038.5	4.29
87	213.9	949.1	751.0	4.23
88	251.4	671.0	491.1	4.24
89	177.0	1243.0	1036.9	4.27
90	254.4	671.1	490.7	4.24
91	180.0	1241.6	1035.0	4.20
92	182.9	1240.6	1033.6	4.19
93	222.7	948.1	748.4	4.17
94	260.3	671.4	489.9	4.18
95	162.3	1249.8	1046.3	4.34
96	239.5	670.4	492.5	4.30
97	165.3	1248.2	1044.2	4.40

98	205.1	950.3	753.7	4.31
99	242.5	670.5	492.1	4.26
100	168.2	1247.2	1042.7	4.37
101	208.0	950.2	753.1	4.31
102	245.4	670.6	491.7	4.25
103	256.0	592.0	423.1	4.33
104	171.1	1245.8	1040.7	4.34
105	211.0	949.5	751.9	4.28
106	174.1	1244.1	1038.5	4.29
107	213.9	949.1	751.0	4.23
108	251.4	671.0	491.1	4.24
109	177.0	1243.0	1036.9	4.27
110	254.4	671.1	490.7	4.24
111	180.0	1241.6	1035.0	4.20
112	182.9	1240.6	1033.6	4.19
113	222.7	948.1	748.4	4.17
114	260.3	671.4	489.9	4.18
115	185.9	1239.0	1031.4	4.17
116	225.7	947.5	747.3	4.14
117	248.4	780.8	589.4	4.15
118	263.3	671.6	489.6	4.17
119	162.3	1249.8	1046.3	4.34
120	239.5	670.4	492.5	4.30
121	165.3	1248.2	1044.2	4.40
122	205.1	950.3	753.7	4.31
123	242.5	670.5	492.1	4.26
124	168.2	1247.2	1042.7	4.37
125	208.0	950.2	753.1	4.31
126	245.4	670.6	491.7	4.25
127	256.0	592.0	423.1	4.33
128	171.1	1245.8	1040.7	4.34
129	211.0	949.5	751.9	4.28
130	174.1	1244.1	1038.5	4.29
131	213.9	949.1	751.0	4.23
132	251.4	671.0	491.1	4.24
133	177.0	1243.0	1036.9	4.27
134	254.4	671.1	490.7	4.24
135	180.0	1241.6	1035.0	4.20
136	182.9	1240.6	1033.6	4.19
137	222.7	948.1	748.4	4.17
138	260.3	671.4	489.9	4.18
139	185.9	1239.0	1031.4	4.17
140	225.7	947.5	747.3	4.14
141	248.4	780.8	589.4	4.15
142	263.3	671.6	489.6	4.17
143	188.7	1238.0	1030.0	4.16
144	266.3	671.8	489.3	4.14
145	162.3	1249.8	1046.3	4.34
146	239.5	670.4	492.5	4.30

147	165.3	1248.2	1044.2	4.40
148	205.1	950.3	753.7	4.31
149	242.5	670.5	492.1	4.26
150	168.2	1247.2	1042.7	4.37
151	208.0	950.2	753.1	4.31
152	245.4	670.6	491.7	4.25
153	256.0	592.0	423.1	4.33
154	171.1	1245.8	1040.7	4.34
155	211.0	949.5	751.9	4.28
156	174.1	1244.1	1038.5	4.29
157	213.9	949.1	751.0	4.23
158	251.4	671.0	491.1	4.24
159	177.0	1243.0	1036.9	4.27
160	254.4	671.1	490.7	4.24
161	180.0	1241.6	1035.0	4.20
162	182.9	1240.6	1033.6	4.19
163	222.7	948.1	748.4	4.17
164	260.3	671.4	489.9	4.18
165	185.9	1239.0	1031.4	4.17
166	225.7	947.5	747.3	4.14
167	248.4	780.8	589.4	4.15
168	263.3	671.6	489.6	4.17
169	188.7	1238.0	1030.0	4.16
170	266.3	671.8	489.3	4.14
171	191.7	1236.5	1027.9	4.14
172	231.5	946.8	745.7	4.09
173	269.3	672.0	489.0	4.10
174	162.3	1249.8	1046.3	4.34
175	239.5	670.4	492.5	4.30
176	165.3	1248.2	1044.2	4.40
177	205.1	950.3	753.7	4.31
178	242.5	670.5	492.1	4.26
179	168.2	1247.2	1042.7	4.37
180	208.0	950.2	753.1	4.31
181	245.4	670.6	491.7	4.25
182	256.0	592.0	423.1	4.33
183	171.1	1245.8	1040.7	4.34
184	211.0	949.5	751.9	4.28
185	174.1	1244.1	1038.5	4.29
186	213.9	949.1	751.0	4.23
187	251.4	671.0	491.1	4.24
188	177.0	1243.0	1036.9	4.27
189	254.4	671.1	490.7	4.24
190	180.0	1241.6	1035.0	4.20
191	182.9	1240.6	1033.6	4.19
192	222.7	948.1	748.4	4.17
193	260.3	671.4	489.9	4.18
194	185.9	1239.0	1031.4	4.17
195	225.7	947.5	747.3	4.14

196	248.4	780.8	589.4	4.15
197	263.3	671.6	489.6	4.17
198	188.7	1238.0	1030.0	4.16
199	266.3	671.8	489.3	4.14
200	191.7	1236.5	1027.9	4.14
201	231.5	946.8	745.7	4.09
202	269.3	672.0	489.0	4.10
203	194.7	1234.9	1025.8	4.00
204	234.5	946.3	744.7	4.08
205	272.2	672.1	488.6	4.10
206	162.3	1249.8	1046.3	4.34
207	239.5	670.4	492.5	4.30
208	165.3	1248.2	1044.2	4.40
209	205.1	950.3	753.7	4.31
210	242.5	670.5	492.1	4.26
211	168.2	1247.2	1042.7	4.37
212	208.0	950.2	753.1	4.31
213	245.4	670.6	491.7	4.25
214	256.0	592.0	423.1	4.33
215	171.1	1245.8	1040.7	4.34
216	211.0	949.5	751.9	4.28
217	174.1	1244.1	1038.5	4.29
218	213.9	949.1	751.0	4.23
219	251.4	671.0	491.1	4.24
220	177.0	1243.0	1036.9	4.27
221	254.4	671.1	490.7	4.24
222	180.0	1241.6	1035.0	4.20
223	182.9	1240.6	1033.6	4.19
224	222.7	948.1	748.4	4.17
225	260.3	671.4	489.9	4.18
226	185.9	1239.0	1031.4	4.17
227	225.7	947.5	747.3	4.14
228	248.4	780.8	589.4	4.15
229	263.3	671.6	489.6	4.17
230	188.7	1238.0	1030.0	4.16
231	266.3	671.8	489.3	4.14
232	191.7	1236.5	1027.9	4.14
233	231.5	946.8	745.7	4.09
234	269.3	672.0	489.0	4.10
235	194.7	1234.9	1025.8	4.00
236	234.5	946.3	744.7	4.08
237	272.2	672.1	488.6	4.10
238	197.6	1234.0	1024.4	3.98
239	275.2	672.2	488.1	4.08
240	162.3	1249.8	1046.3	4.34
241	239.5	670.4	492.5	4.30
242	165.3	1248.2	1044.2	4.40
243	205.1	950.3	753.7	4.31
244	242.5	670.5	492.1	4.26

245	168.2	1247.2	1042.7	4.37
246	208.0	950.2	753.1	4.31
247	245.4	670.6	491.7	4.25
248	256.0	592.0	423.1	4.33
249	171.1	1245.8	1040.7	4.34
250	211.0	949.5	751.9	4.28
251	174.1	1244.1	1038.5	4.29
252	213.9	949.1	751.0	4.23
253	251.4	671.0	491.1	4.24
254	177.0	1243.0	1036.9	4.27
255	254.4	671.1	490.7	4.24
256	180.0	1241.6	1035.0	4.20
257	182.9	1240.6	1033.6	4.19
258	222.7	948.1	748.4	4.17
259	260.3	671.4	489.9	4.18
260	185.9	1239.0	1031.4	4.17
261	225.7	947.5	747.3	4.14
262	248.4	780.8	589.4	4.15
263	263.3	671.6	489.6	4.17
264	188.7	1238.0	1030.0	4.16
265	266.3	671.8	489.3	4.14
266	191.7	1236.5	1027.9	4.14
267	231.5	946.8	745.7	4.09
268	269.3	672.0	489.0	4.10
269	194.7	1234.9	1025.8	4.00
270	234.5	946.3	744.7	4.08
271	272.2	672.1	488.6	4.10
272	197.6	1234.0	1024.4	3.98
273	275.2	672.2	488.1	4.08
274	200.6	1232.4	1022.3	3.97
275	278.2	672.5	487.9	4.06
276	288.9	595.0	420.3	4.10
277	162.3	1249.8	1046.3	4.34
278	239.5	670.4	492.5	4.30
279	165.3	1248.2	1044.2	4.40
280	205.1	950.3	753.7	4.31
281	242.5	670.5	492.1	4.26
282	168.2	1247.2	1042.7	4.37
283	208.0	950.2	753.1	4.31
284	245.4	670.6	491.7	4.25
285	256.0	592.0	423.1	4.33
286	171.1	1245.8	1040.7	4.34
287	211.0	949.5	751.9	4.28
288	174.1	1244.1	1038.5	4.29
289	213.9	949.1	751.0	4.23
290	251.4	671.0	491.1	4.24
291	177.0	1243.0	1036.9	4.27
292	254.4	671.1	490.7	4.24
293	180.0	1241.6	1035.0	4.20

294	182.9	1240.6	1033.6	4.19
295	222.7	948.1	748.4	4.17
296	260.3	671.4	489.9	4.18
297	185.9	1239.0	1031.4	4.17
298	225.7	947.5	747.3	4.14
299	248.4	780.8	589.4	4.15
300	263.3	671.6	489.6	4.17
301	188.7	1238.0	1030.0	4.16
302	266.3	671.8	489.3	4.14
303	191.7	1236.5	1027.9	4.14
304	231.5	946.8	745.7	4.09
305	269.3	672.0	489.0	4.10
306	194.7	1234.9	1025.8	4.00
307	234.5	946.3	744.7	4.08
308	272.2	672.1	488.6	4.10
309	197.6	1234.0	1024.4	3.98
310	275.2	672.2	488.1	4.08
311	200.6	1232.4	1022.3	3.97
312	278.2	672.5	487.9	4.06
313	288.9	595.0	420.3	4.10
314	203.5	1231.5	1020.9	3.95
315	243.3	945.3	742.0	4.06
316	162.3	1249.8	1046.3	4.34
317	239.5	670.4	492.5	4.30
318	165.3	1248.2	1044.2	4.40
319	205.1	950.3	753.7	4.31
320	242.5	670.5	492.1	4.26
321	168.2	1247.2	1042.7	4.37
322	208.0	950.2	753.1	4.31
323	245.4	670.6	491.7	4.25
324	256.0	592.0	423.1	4.33
325	171.1	1245.8	1040.7	4.34
326	211.0	949.5	751.9	4.28
327	174.1	1244.1	1038.5	4.29
328	213.9	949.1	751.0	4.23
329	251.4	671.0	491.1	4.24
330	177.0	1243.0	1036.9	4.27
331	254.4	671.1	490.7	4.24
332	180.0	1241.6	1035.0	4.20
333	182.9	1240.6	1033.6	4.19
334	222.7	948.1	748.4	4.17
335	260.3	671.4	489.9	4.18
336	185.9	1239.0	1031.4	4.17
337	225.7	947.5	747.3	4.14
338	248.4	780.8	589.4	4.15
339	263.3	671.6	489.6	4.17
340	188.7	1238.0	1030.0	4.16
341	266.3	671.8	489.3	4.14
342	191.7	1236.5	1027.9	4.14

343	231.5	946.8	745.7	4.09
344	269.3	672.0	489.0	4.10
345	194.7	1234.9	1025.8	4.00
346	234.5	946.3	744.7	4.08
347	272.2	672.1	488.6	4.10
348	197.6	1234.0	1024.4	3.98
349	275.2	672.2	488.1	4.08
350	200.6	1232.4	1022.3	3.97
351	278.2	672.5	487.9	4.06
352	288.9	595.0	420.3	4.10
353	203.5	1231.5	1020.9	3.95
354	243.3	945.3	742.0	4.06
355	206.5	1229.9	1018.8	3.91
356	246.3	944.6	740.8	4.01
357	284.2	672.7	487.1	3.99
358	162.3	1249.8	1046.3	4.34
359	239.5	670.4	492.5	4.30
360	165.3	1248.2	1044.2	4.40
361	205.1	950.3	753.7	4.31
362	242.5	670.5	492.1	4.26
363	168.2	1247.2	1042.7	4.37
364	208.0	950.2	753.1	4.31
365	245.4	670.6	491.7	4.25
366	256.0	592.0	423.1	4.33
367	171.1	1245.8	1040.7	4.34
368	211.0	949.5	751.9	4.28
369	174.1	1244.1	1038.5	4.29
370	213.9	949.1	751.0	4.23
371	251.4	671.0	491.1	4.24
372	177.0	1243.0	1036.9	4.27
373	254.4	671.1	490.7	4.24
374	180.0	1241.6	1035.0	4.20
375	182.9	1240.6	1033.6	4.19
376	222.7	948.1	748.4	4.17
377	260.3	671.4	489.9	4.18
378	185.9	1239.0	1031.4	4.17
379	225.7	947.5	747.3	4.14
380	248.4	780.8	589.4	4.15
381	263.3	671.6	489.6	4.17
382	188.7	1238.0	1030.0	4.16
383	266.3	671.8	489.3	4.14
384	191.7	1236.5	1027.9	4.14
385	231.5	946.8	745.7	4.09
386	269.3	672.0	489.0	4.10
387	194.7	1234.9	1025.8	4.00
388	234.5	946.3	744.7	4.08
389	272.2	672.1	488.6	4.10
390	197.6	1234.0	1024.4	3.98
391	275.2	672.2	488.1	4.08

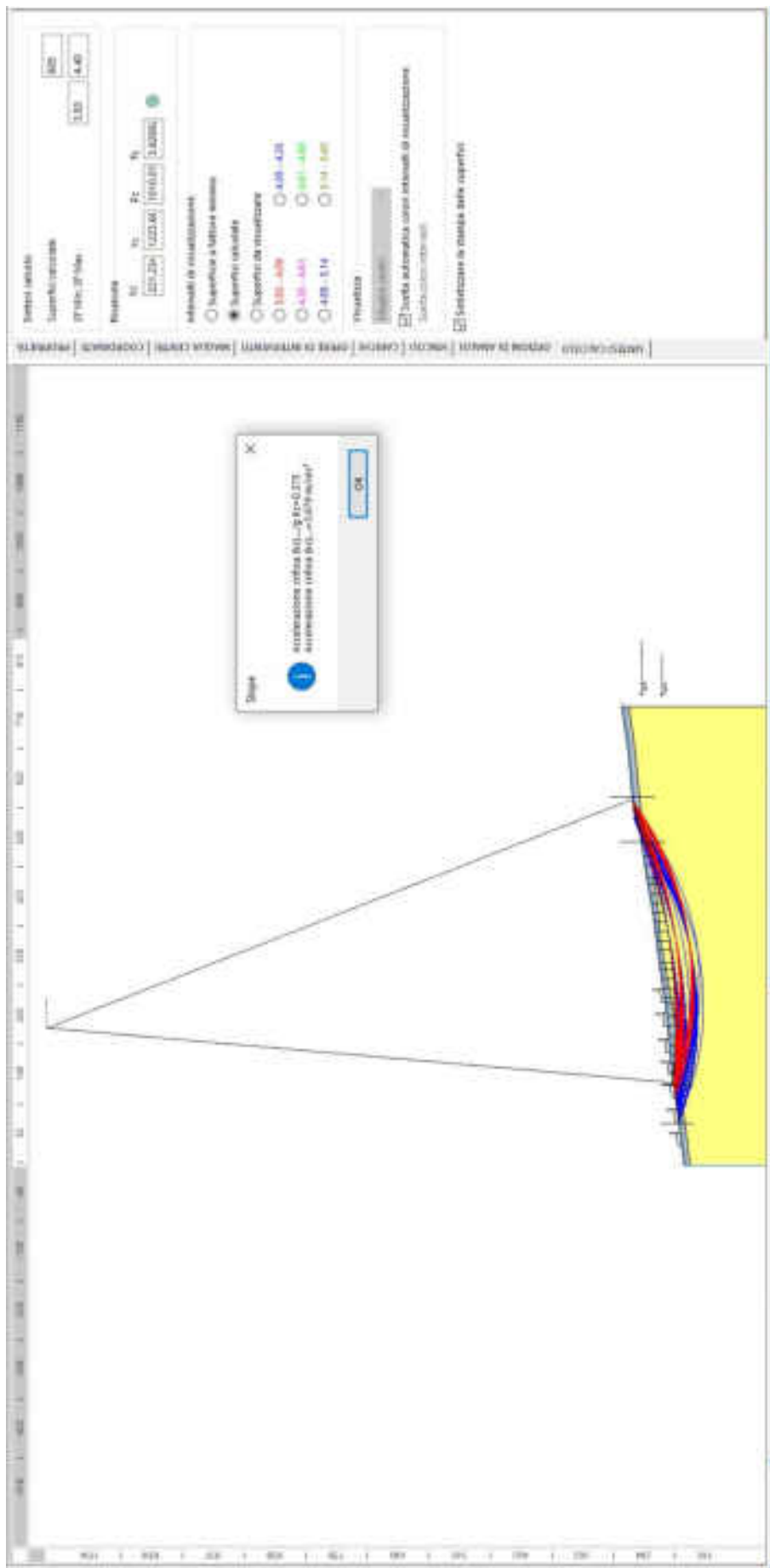
392	200.6	1232.4	1022.3	3.97
393	278.2	672.5	487.9	4.06
394	288.9	595.0	420.3	4.10
395	203.5	1231.5	1020.9	3.95
396	243.3	945.3	742.0	4.06
397	206.5	1229.9	1018.8	3.91
398	246.3	944.6	740.8	4.01
399	284.2	672.7	487.1	3.99
400	209.4	1228.9	1017.3	3.89
401	249.2	944.4	740.1	3.98
402	162.3	1249.8	1046.3	4.34
403	239.5	670.4	492.5	4.30
404	165.3	1248.2	1044.2	4.40
405	205.1	950.3	753.7	4.31
406	242.5	670.5	492.1	4.26
407	168.2	1247.2	1042.7	4.37
408	208.0	950.2	753.1	4.31
409	245.4	670.6	491.7	4.25
410	256.0	592.0	423.1	4.33
411	171.1	1245.8	1040.7	4.34
412	211.0	949.5	751.9	4.28
413	174.1	1244.1	1038.5	4.29
414	213.9	949.1	751.0	4.23
415	251.4	671.0	491.1	4.24
416	177.0	1243.0	1036.9	4.27
417	254.4	671.1	490.7	4.24
418	180.0	1241.6	1035.0	4.20
419	182.9	1240.6	1033.6	4.19
420	222.7	948.1	748.4	4.17
421	260.3	671.4	489.9	4.18
422	185.9	1239.0	1031.4	4.17
423	225.7	947.5	747.3	4.14
424	248.4	780.8	589.4	4.15
425	263.3	671.6	489.6	4.17
426	188.7	1238.0	1030.0	4.16
427	266.3	671.8	489.3	4.14
428	191.7	1236.5	1027.9	4.14
429	231.5	946.8	745.7	4.09
430	269.3	672.0	489.0	4.10
431	194.7	1234.9	1025.8	4.00
432	234.5	946.3	744.7	4.08
433	272.2	672.1	488.6	4.10
434	197.6	1234.0	1024.4	3.98
435	275.2	672.2	488.1	4.08
436	200.6	1232.4	1022.3	3.97
437	278.2	672.5	487.9	4.06
438	288.9	595.0	420.3	4.10
439	203.5	1231.5	1020.9	3.95
440	243.3	945.3	742.0	4.06

441	206.5	1229.9	1018.8	3.91
442	246.3	944.6	740.8	4.01
443	284.2	672.7	487.1	3.99
444	209.4	1228.9	1017.3	3.89
445	249.2	944.4	740.1	3.98
446	212.4	1227.5	1015.4	3.88
447	252.1	944.0	739.3	3.98
448	290.1	673.1	486.4	3.95
449	162.3	1249.8	1046.3	4.34
450	239.5	670.4	492.5	4.30
451	165.3	1248.2	1044.2	4.40
452	205.1	950.3	753.7	4.31
453	242.5	670.5	492.1	4.26
454	168.2	1247.2	1042.7	4.37
455	208.0	950.2	753.1	4.31
456	245.4	670.6	491.7	4.25
457	256.0	592.0	423.1	4.33
458	171.1	1245.8	1040.7	4.34
459	211.0	949.5	751.9	4.28
460	174.1	1244.1	1038.5	4.29
461	213.9	949.1	751.0	4.23
462	251.4	671.0	491.1	4.24
463	177.0	1243.0	1036.9	4.27
464	254.4	671.1	490.7	4.24
465	180.0	1241.6	1035.0	4.20
466	182.9	1240.6	1033.6	4.19
467	222.7	948.1	748.4	4.17
468	260.3	671.4	489.9	4.18
469	185.9	1239.0	1031.4	4.17
470	225.7	947.5	747.3	4.14
471	248.4	780.8	589.4	4.15
472	263.3	671.6	489.6	4.17
473	188.7	1238.0	1030.0	4.16
474	266.3	671.8	489.3	4.14
475	191.7	1236.5	1027.9	4.14
476	231.5	946.8	745.7	4.09
477	269.3	672.0	489.0	4.10
478	194.7	1234.9	1025.8	4.00
479	234.5	946.3	744.7	4.08
480	272.2	672.1	488.6	4.10
481	197.6	1234.0	1024.4	3.98
482	275.2	672.2	488.1	4.08
483	200.6	1232.4	1022.3	3.97
484	278.2	672.5	487.9	4.06
485	288.9	595.0	420.3	4.10
486	203.5	1231.5	1020.9	3.95
487	243.3	945.3	742.0	4.06
488	206.5	1229.9	1018.8	3.91
489	246.3	944.6	740.8	4.01

490	284.2	672.7	487.1	3.99
491	209.4	1228.9	1017.3	3.89
492	249.2	944.4	740.1	3.98
493	212.4	1227.5	1015.4	3.88
494	252.1	944.0	739.3	3.98
495	290.1	673.1	486.4	3.95
496	215.3	1226.6	1014.0	3.86
497	255.1	943.4	738.2	3.95
498	293.1	673.2	486.0	3.95
499	162.3	1249.8	1046.3	4.34
500	239.5	670.4	492.5	4.30
501	165.3	1248.2	1044.2	4.40
502	205.1	950.3	753.7	4.31
503	242.5	670.5	492.1	4.26
504	168.2	1247.2	1042.7	4.37
505	208.0	950.2	753.1	4.31
506	245.4	670.6	491.7	4.25
507	256.0	592.0	423.1	4.33
508	171.1	1245.8	1040.7	4.34
509	211.0	949.5	751.9	4.28
510	174.1	1244.1	1038.5	4.29
511	213.9	949.1	751.0	4.23
512	251.4	671.0	491.1	4.24
513	177.0	1243.0	1036.9	4.27
514	254.4	671.1	490.7	4.24
515	180.0	1241.6	1035.0	4.20
516	182.9	1240.6	1033.6	4.19
517	222.7	948.1	748.4	4.17
518	260.3	671.4	489.9	4.18
519	185.9	1239.0	1031.4	4.17
520	225.7	947.5	747.3	4.14
521	248.4	780.8	589.4	4.15
522	263.3	671.6	489.6	4.17
523	188.7	1238.0	1030.0	4.16
524	266.3	671.8	489.3	4.14
525	191.7	1236.5	1027.9	4.14
526	231.5	946.8	745.7	4.09
527	269.3	672.0	489.0	4.10
528	194.7	1234.9	1025.8	4.00
529	234.5	946.3	744.7	4.08
530	272.2	672.1	488.6	4.10
531	197.6	1234.0	1024.4	3.98
532	275.2	672.2	488.1	4.08
533	200.6	1232.4	1022.3	3.97
534	278.2	672.5	487.9	4.06
535	288.9	595.0	420.3	4.10
536	203.5	1231.5	1020.9	3.95
537	243.3	945.3	742.0	4.06
538	206.5	1229.9	1018.8	3.91

539	246.3	944.6	740.8	4.01
540	284.2	672.7	487.1	3.99
541	209.4	1228.9	1017.3	3.89
542	249.2	944.4	740.1	3.98
543	212.4	1227.5	1015.4	3.88
544	252.1	944.0	739.3	3.98
545	290.1	673.1	486.4	3.95
546	215.3	1226.6	1014.0	3.86
547	255.1	943.4	738.2	3.95
548	293.1	673.2	486.0	3.95
549	218.2	1225.2	1012.1	3.84
550	296.1	673.5	485.8	3.92
551	162.3	1249.8	1046.3	4.34
552	239.5	670.4	492.5	4.30
553	165.3	1248.2	1044.2	4.40
554	205.1	950.3	753.7	4.31
555	242.5	670.5	492.1	4.26
556	168.2	1247.2	1042.7	4.37
557	208.0	950.2	753.1	4.31
558	245.4	670.6	491.7	4.25
559	256.0	592.0	423.1	4.33
560	171.1	1245.8	1040.7	4.34
561	211.0	949.5	751.9	4.28
562	174.1	1244.1	1038.5	4.29
563	213.9	949.1	751.0	4.23
564	251.4	671.0	491.1	4.24
565	177.0	1243.0	1036.9	4.27
566	254.4	671.1	490.7	4.24
567	180.0	1241.6	1035.0	4.20
568	182.9	1240.6	1033.6	4.19
569	222.7	948.1	748.4	4.17
570	260.3	671.4	489.9	4.18
571	185.9	1239.0	1031.4	4.17
572	225.7	947.5	747.3	4.14
573	248.4	780.8	589.4	4.15
574	263.3	671.6	489.6	4.17
575	188.7	1238.0	1030.0	4.16
576	266.3	671.8	489.3	4.14
577	191.7	1236.5	1027.9	4.14
578	231.5	946.8	745.7	4.09
579	269.3	672.0	489.0	4.10
580	194.7	1234.9	1025.8	4.00
581	234.5	946.3	744.7	4.08
582	272.2	672.1	488.6	4.10
583	197.6	1234.0	1024.4	3.98
584	275.2	672.2	488.1	4.08
585	200.6	1232.4	1022.3	3.97
586	278.2	672.5	487.9	4.06
587	288.9	595.0	420.3	4.10

588	203.5	1231.5	1020.9	3.95
589	243.3	945.3	742.0	4.06
590	206.5	1229.9	1018.8	3.91
591	246.3	944.6	740.8	4.01
592	284.2	672.7	487.1	3.99
593	209.4	1228.9	1017.3	3.89
594	249.2	944.4	740.1	3.98
595	212.4	1227.5	1015.4	3.88
596	252.1	944.0	739.3	3.98
597	290.1	673.1	486.4	3.95
598	215.3	1226.6	1014.0	3.86
599	255.1	943.4	738.2	3.95
600	293.1	673.2	486.0	3.95
601	218.2	1225.2	1012.1	3.84
602	296.1	673.5	485.8	3.92
603	221.2	1223.7	1010.0	3.83
604	261.0	943.0	736.7	3.91
605	299.1	673.5	485.3	3.90



Verifica di stabilità F-13-0113 - Condizioni statiche - Superficie generica

Analisi di stabilità dei pendii con: JANBU (1967)

Calcolo eseguito secondo	Utente
Numero di strati	2.0
Numero dei conci	30.0
Grado di sicurezza ritenuto accettabile	1.0
Coefficiente parziale resistenza	1.0
Analisi	Condizione drenata
Superficie di forma generica	

Vertici profilo

Nr	X (m)	y (m)
1	0.0	0.0
2	0.0	200.0
3	82.84	210.16
4	151.75	220.16
5	260.54	230.16
6	325.93	240.16
7	406.81	250.16
8	462.11	260.16
9	530.72	270.16
10	557.42	280.16
11	668.66	290.14
12	737.77	300.16

Falda

Nr.	X (m)	y (m)
1	0.0	0.0
2	0.0	197.0
3	82.84	207.16
4	151.75	217.16
5	260.54	227.16
6	325.93	237.16
7	406.81	247.16
8	462.11	257.16
9	530.72	267.16
10	557.42	277.16
11	668.66	287.14
12	737.77	297.16

Vertici strato1

N	X (m)	y (m)
1	0.0	0.0
2	0.0	190.3
3	94.77	201.89

4	213.77	210.86
5	261.42	220.0
6	264.03	220.28
7	362.7	237.72
8	420.77	242.69
9	450.77	248.11
10	503.77	253.23
11	515.5	256.41
12	549.77	267.29
13	671.05	279.3
14	737.77	288.73

Vertici superficie Nr...1

N	X m	y m
1	94.66	211.98
2	103.7	207.9
3	118.3	205.3
4	141.7	205.4
5	213.7	210.8
6	264.0	220.2
7	362.7	237.7
8	420.7	242.6
9	450.7	248.1
10	503.7	253.2
11	515.4	256.4
12	555.4	269.0
13	604.81	284.43

Coefficienti parziali azioni

Sfavorevoli: Permanenti, variabili	1.0	1.0
Favorevoli: Permanenti, variabili	1.0	1.0

Coefficienti parziali per i parametri geotecnici del terreno

Tangente angolo di resistenza al taglio	1.25
Coazione efficace	1.25
Coazione non drenata	1.4
Riduzione parametri geotecnici terreno	No

Stratigrafia

Strato	Coazione (kg/cm2)	Coazione non drenata (kg/cm2)	Angolo resistenza al taglio (°)	Peso unità di volume (Kg/m3)	Peso saturo (Kg/m3)	Litologia	
1	0,13		24,4	2030	2230	SUBSTRATO GEOLOGICO	

						ALTERATO E DECOMPR ESSO - Argilla limoso-marn osa con sabbia	
2	0,35		26	2100	2300	SUBSTRAT O GEOLOGIC O - Argilla marnosa con intercalazion i sabbiose	

G0: Modulo di taglio dinamico a basse deformazioni; G: Modulo di taglio dinamico; Dr: Densità relativa; OCR: Grado di sovraconsolidazione; IP: Indice di plasticità

Strato	G0 (KPa)	G (KPa)	Dr (%)	OCR	IP (%)
1	11520	8640	0	1	34
2	627200	470400	0	4	44

Carichi distribuiti

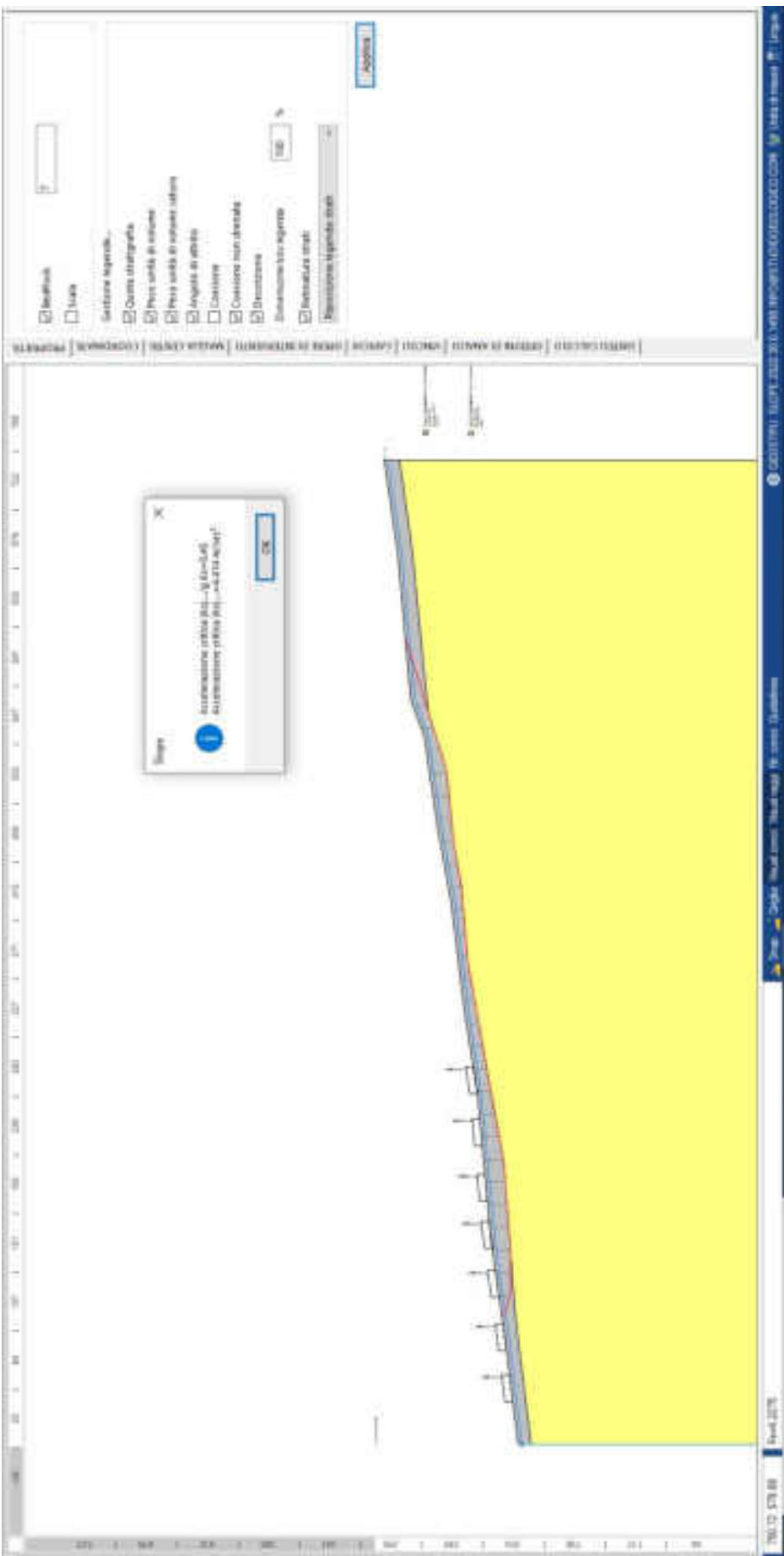
N°	xi (m)	yi (m)	xf (m)	yf (m)	Carico esterno (kg/cm2)
1	32.34	204.01	52.34	206.4633	0.3
2	70.27	208.73	90.27	211.1833	0.3
3	110.46	214.11	130.46	217.0121	0.3
4	147.26	219	167.26	221.9021	0.3
5	182.85	222.99	202.85	224.8285	0.3
6	224.43	226.77	244.43	228.6085	0.3
7	262.97	230.27	282.97	233.3288	0.3

B: Larghezza del concio; Alfa: Angolo di inclinazione della base del concio; Li: Lunghezza della base del concio; Wi: Peso del concio ; Ui: Forze derivanti dalle pressioni neutre; Ni: forze agenti normalmente alla direzione di scivolamento; Ti: forze agenti parallelamente alla superficie di scivolamento; Fi: Angolo di attrito; c: coesione.

Superficie Nr...1 Fattore di sicurezza=4.23

Nr.	B m	Alfa (°)	Li m	Wi (Kg)	Kh•Wi (Kg)	Kv•Wi (Kg)	c (kg/cm2)	Fi (°)	Ui (Kg)	N'i (Kg)	Ti (Kg)
1	17.0	-17.8	17.8143791.1	0.0	0.0	0.13	24.416218.5140544.721593.6				
2	17.0	-3.7	17.0408420.0	0.0	0.0	0.13	24.4113871.8297607.637242.8				
3	17.0	1.2	17.0470011.7	0.0	0.0	0.13	24.4162166.6307098.538180.4				
4	17.0	4.3	17.0568999.3	0.0	0.0	0.35	26.0 0.0564652.7 79461.1				
5	17.0	4.3	17.0546620.6	0.0	0.0	0.35	26.0 0.0542403.8 76887.5				
6	17.0	4.3	17.0585999.6	0.0	0.0	0.35	26.0 0.0581554.6 81416.1				

7	17.0	4.3	17.0572964.1	0.0	0.0	0.35	26.0	0.0568572.8 79918.7
8	17.0	10.6	17.3548725.1	0.0	0.0	0.35	26.0	0.0543820.4 78367.8
9	17.0	10.6	17.3509432.7	0.0	0.0	0.35	26.0	0.0504706.2 73789.5
10	17.0	10.5	17.3413100.6	0.0	0.0	0.35	26.0	0.0408753.2 62510.3
11	17.0	10.1	17.3430057.2	0.0	0.0	0.35	26.0	0.0425530.4 64361.3
12	17.0	10.1	17.3366818.9	0.0	0.0	0.35	26.0	0.0362592.3 56988.3
13	17.0	10.1	17.3347456.3	0.0	0.0	0.35	26.0	0.0343321.8 54730.8
14	17.0	10.1	17.3331650.6	0.0	0.0	0.35	26.0	0.0327591.1 52888.0
15	17.0	10.0	17.3299060.6	0.0	0.0	0.35	26.0	0.0295153.6 49080.3
16	17.0	8.9	17.2271826.5	0.0	0.0	0.35	26.0	0.0268070.4 45702.9
17	17.0	4.8	17.1274027.9	0.0	0.0	0.35	26.0	0.0271175.9 45557.7
18	17.0	4.8	17.1299476.8	0.0	0.0	0.35	26.0	0.0296469.3 48485.5
19	17.0	4.9	17.1330012.5	0.0	0.0	0.35	26.0	0.0326801.5 52000.4
20	17.0	9.4	17.2365567.0	0.0	0.0	0.13	24.4117553.7246146.032137.9	
21	17.0	10.1	17.3371376.2	0.0	0.0	0.35	26.0	0.0367130.1 57523.1
22	17.0	5.5	17.1399345.2	0.0	0.0	0.35	26.0	0.0395428.7 60024.4
23	17.0	5.5	17.1433612.2	0.0	0.0	0.35	26.0	0.0429491.1 63966.5
24	17.0	5.5	17.1465622.9	0.0	0.0	0.35	26.0	0.0461296.8 67652.0
25	17.0	15.3	17.6440178.9	0.0	0.0	0.13	24.4150891.0289952.437872.4	
26	17.0	17.5	17.8344325.0	0.0	0.0	0.35	26.0	0.0343859.9 57046.6
27	17.0	17.5	17.8361223.7	0.0	0.0	0.35	26.0	0.0360955.8 59114.1
28	17.0	17.4	17.8348318.2	0.0	0.0	0.13	24.4109796.1240150.732731.5	
29	17.0	17.3	17.8204797.8	0.0	0.0	0.13	24.445456.6159860.823700.0	
30	17.0	17.3	17.865246.75	0.0	0.0	0.13	24.4	0.064484.0 12981.9



Verifica di stabilità F-13-0113 - Condizioni pseudostatiche - Superfici circolari

Analisi di stabilità dei pendii con: JANBU (1967)

Calcolo eseguito secondo	Utente
Numero di strati	2.0
Numero dei conci	30.0
Grado di sicurezza ritenuto accettabile	1.1
Coefficiente parziale resistenza	1.0
Analisi	Condizione drenata
Superficie di forma circolare	

Maglia dei Centri

Ascissa vertice sinistro inferiore xi	128.9 m
Ordinata vertice sinistro inferiore yi	571.09 m
Ascissa vertice destro superiore xs	483.64 m
Ordinata vertice destro superiore ys	943.62 m
Passo di ricerca	10.0
Numero di celle lungo x	10.0
Numero di celle lungo y	10.0

Sisma

Coefficiente azione sismica orizzontale	0.021
Coefficiente azione sismica verticale	0.01

Vertici profilo

Nr	X (m)	y (m)
1	0.0	0.0
2	0.0	200.0
3	82.84	210.16
4	151.75	220.16
5	260.54	230.16
6	325.93	240.16
7	406.81	250.16
8	462.11	260.16
9	530.72	270.16
10	557.42	280.16
11	668.66	290.14
12	737.77	300.16

Falda

Nr.	X (m)	y (m)
1	0.0	0.0
2	0.0	197.0
3	82.84	207.16
4	151.75	217.16
5	260.54	227.16
6	325.93	237.16
7	406.81	247.16
8	462.11	257.16
9	530.72	267.16
10	557.42	277.16
11	668.66	287.14
12	737.77	297.16

Vertici strato1

N	X (m)	y (m)
1	0.0	0.0
2	0.0	190.3
3	94.77	201.89
4	213.77	210.86
5	261.42	220.0
6	264.03	220.28
7	362.7	237.72
8	420.77	242.69
9	450.77	248.11
10	503.77	253.23
11	515.5	256.41
12	549.77	267.29
13	671.05	279.3
14	737.77	288.73

Coefficienti parziali azioni

Sfavorevoli: Permanenti, variabili	1.0	1.0
Favorevoli: Permanenti, variabili	1.0	1.0

Coefficienti parziali per i parametri geotecnici del terreno

Tangente angolo di resistenza al taglio	1.25
Coazione efficace	1.25
Coazione non drenata	1.4
Riduzione parametri geotecnici terreno	No

Stratigrafia

Strato	Coazione	Coazione	Angolo	Peso unità	Peso saturo	Litologia

	(kg/cm ²)	non drenata (kg/cm ²)	resistenza al taglio (°)	di volume (Kg/m ³)	(Kg/m ³)		
1	0,13		24,4	2030	2230	SUBSTRATO GEOLOGICO ALTERATO E DECOMPRRESSO - Argilla limoso-marnosa con sabbia	
2	0,35		26	2100	2300	SUBSTRATO GEOLOGICO - Argilla marnosa con intercalazioni sabbiose	

G0: Modulo di taglio dinamico a basse deformazioni; G: Modulo di taglio dinamico; Dr: Densità relativa; OCR: Grado di sovraconsolidazione; IP: Indice di plasticità

Strato	G0 (KPa)	G (KPa)	Dr (%)	OCR	IP (%)
1	11520	8640	0	1	34
2	627200	470400	0	4	44

Carichi distribuiti

N°	xi (m)	yi (m)	xf (m)	yf (m)	Carico esterno (kg/cm ²)
1	32.34	204.01	52.34	206.4633	0.3
2	70.27	208.73	90.27	211.1833	0.3
3	110.46	214.11	130.46	217.0121	0.3
4	147.26	219	167.26	221.9021	0.3
5	182.85	222.99	202.85	224.8285	0.3
6	224.43	226.77	244.43	228.6085	0.3
7	262.97	230.27	282.97	233.3288	0.3

Risultati analisi pendio [RSL 1D]

Fs minimo individuato
Ascissa centro superficie

3.29
221.23 m

Ordinata centro superficie
Raggio superficie

1223.67 m
1010.02 m

Numero di superfici esaminate....(605)

N°	Xo	Yo	Ro	Fs
1	162.3	1249.8	1046.3	3.69
2	239.5	670.4	492.5	3.65
3	162.3	1249.8	1046.3	3.69
4	239.5	670.4	492.5	3.65
5	165.3	1248.2	1044.2	3.74
6	205.1	950.3	753.7	3.67
7	242.5	670.5	492.1	3.62
8	162.3	1249.8	1046.3	3.69
9	239.5	670.4	492.5	3.65
10	165.3	1248.2	1044.2	3.74
11	205.1	950.3	753.7	3.67
12	242.5	670.5	492.1	3.62
13	168.2	1247.2	1042.7	3.71
14	208.0	950.2	753.1	3.67
15	245.4	670.6	491.7	3.62
16	256.0	592.0	423.1	3.69
17	162.3	1249.8	1046.3	3.69
18	239.5	670.4	492.5	3.65
19	165.3	1248.2	1044.2	3.74
20	205.1	950.3	753.7	3.67
21	242.5	670.5	492.1	3.62
22	168.2	1247.2	1042.7	3.71
23	208.0	950.2	753.1	3.67
24	245.4	670.6	491.7	3.62
25	256.0	592.0	423.1	3.69
26	171.1	1245.8	1040.7	3.70
27	211.0	949.5	751.9	3.64
28	162.3	1249.8	1046.3	3.69
29	239.5	670.4	492.5	3.65
30	165.3	1248.2	1044.2	3.74
31	205.1	950.3	753.7	3.67
32	242.5	670.5	492.1	3.62
33	168.2	1247.2	1042.7	3.71
34	208.0	950.2	753.1	3.67
35	245.4	670.6	491.7	3.62
36	256.0	592.0	423.1	3.69
37	171.1	1245.8	1040.7	3.70
38	211.0	949.5	751.9	3.64
39	174.1	1244.1	1038.5	3.66
40	213.9	949.1	751.0	3.60
41	251.4	671.0	491.1	3.61

42	162.3	1249.8	1046.3	3.69
43	239.5	670.4	492.5	3.65
44	165.3	1248.2	1044.2	3.74
45	205.1	950.3	753.7	3.67
46	242.5	670.5	492.1	3.62
47	168.2	1247.2	1042.7	3.71
48	208.0	950.2	753.1	3.67
49	245.4	670.6	491.7	3.62
50	256.0	592.0	423.1	3.69
51	171.1	1245.8	1040.7	3.70
52	211.0	949.5	751.9	3.64
53	174.1	1244.1	1038.5	3.66
54	213.9	949.1	751.0	3.60
55	251.4	671.0	491.1	3.61
56	177.0	1243.0	1036.9	3.64
57	254.4	671.1	490.7	3.61
58	162.3	1249.8	1046.3	3.69
59	239.5	670.4	492.5	3.65
60	165.3	1248.2	1044.2	3.74
61	205.1	950.3	753.7	3.67
62	242.5	670.5	492.1	3.62
63	168.2	1247.2	1042.7	3.71
64	208.0	950.2	753.1	3.67
65	245.4	670.6	491.7	3.62
66	256.0	592.0	423.1	3.69
67	171.1	1245.8	1040.7	3.70
68	211.0	949.5	751.9	3.64
69	174.1	1244.1	1038.5	3.66
70	213.9	949.1	751.0	3.60
71	251.4	671.0	491.1	3.61
72	177.0	1243.0	1036.9	3.64
73	254.4	671.1	490.7	3.61
74	180.0	1241.6	1035.0	3.58
75	162.3	1249.8	1046.3	3.69
76	239.5	670.4	492.5	3.65
77	165.3	1248.2	1044.2	3.74
78	205.1	950.3	753.7	3.67
79	242.5	670.5	492.1	3.62
80	168.2	1247.2	1042.7	3.71
81	208.0	950.2	753.1	3.67
82	245.4	670.6	491.7	3.62
83	256.0	592.0	423.1	3.69
84	171.1	1245.8	1040.7	3.70
85	211.0	949.5	751.9	3.64
86	174.1	1244.1	1038.5	3.66
87	213.9	949.1	751.0	3.60
88	251.4	671.0	491.1	3.61
89	177.0	1243.0	1036.9	3.64
90	254.4	671.1	490.7	3.61

91	180.0	1241.6	1035.0	3.58
92	182.9	1240.6	1033.6	3.58
93	222.7	948.1	748.4	3.56
94	260.3	671.4	489.9	3.57
95	162.3	1249.8	1046.3	3.69
96	239.5	670.4	492.5	3.65
97	165.3	1248.2	1044.2	3.74
98	205.1	950.3	753.7	3.67
99	242.5	670.5	492.1	3.62
100	168.2	1247.2	1042.7	3.71
101	208.0	950.2	753.1	3.67
102	245.4	670.6	491.7	3.62
103	256.0	592.0	423.1	3.69
104	171.1	1245.8	1040.7	3.70
105	211.0	949.5	751.9	3.64
106	174.1	1244.1	1038.5	3.66
107	213.9	949.1	751.0	3.60
108	251.4	671.0	491.1	3.61
109	177.0	1243.0	1036.9	3.64
110	254.4	671.1	490.7	3.61
111	180.0	1241.6	1035.0	3.58
112	182.9	1240.6	1033.6	3.58
113	222.7	948.1	748.4	3.56
114	260.3	671.4	489.9	3.57
115	185.9	1239.0	1031.4	3.56
116	225.7	947.5	747.3	3.54
117	248.4	780.8	589.4	3.54
118	263.3	671.6	489.6	3.56
119	162.3	1249.8	1046.3	3.69
120	239.5	670.4	492.5	3.65
121	165.3	1248.2	1044.2	3.74
122	205.1	950.3	753.7	3.67
123	242.5	670.5	492.1	3.62
124	168.2	1247.2	1042.7	3.71
125	208.0	950.2	753.1	3.67
126	245.4	670.6	491.7	3.62
127	256.0	592.0	423.1	3.69
128	171.1	1245.8	1040.7	3.70
129	211.0	949.5	751.9	3.64
130	174.1	1244.1	1038.5	3.66
131	213.9	949.1	751.0	3.60
132	251.4	671.0	491.1	3.61
133	177.0	1243.0	1036.9	3.64
134	254.4	671.1	490.7	3.61
135	180.0	1241.6	1035.0	3.58
136	182.9	1240.6	1033.6	3.58
137	222.7	948.1	748.4	3.56
138	260.3	671.4	489.9	3.57
139	185.9	1239.0	1031.4	3.56

140	225.7	947.5	747.3	3.54
141	248.4	780.8	589.4	3.54
142	263.3	671.6	489.6	3.56
143	188.7	1238.0	1030.0	3.55
144	266.3	671.8	489.3	3.54
145	162.3	1249.8	1046.3	3.69
146	239.5	670.4	492.5	3.65
147	165.3	1248.2	1044.2	3.74
148	205.1	950.3	753.7	3.67
149	242.5	670.5	492.1	3.62
150	168.2	1247.2	1042.7	3.71
151	208.0	950.2	753.1	3.67
152	245.4	670.6	491.7	3.62
153	256.0	592.0	423.1	3.69
154	171.1	1245.8	1040.7	3.70
155	211.0	949.5	751.9	3.64
156	174.1	1244.1	1038.5	3.66
157	213.9	949.1	751.0	3.60
158	251.4	671.0	491.1	3.61
159	177.0	1243.0	1036.9	3.64
160	254.4	671.1	490.7	3.61
161	180.0	1241.6	1035.0	3.58
162	182.9	1240.6	1033.6	3.58
163	222.7	948.1	748.4	3.56
164	260.3	671.4	489.9	3.57
165	185.9	1239.0	1031.4	3.56
166	225.7	947.5	747.3	3.54
167	248.4	780.8	589.4	3.54
168	263.3	671.6	489.6	3.56
169	188.7	1238.0	1030.0	3.55
170	266.3	671.8	489.3	3.54
171	191.7	1236.5	1027.9	3.54
172	231.5	946.8	745.7	3.49
173	269.3	672.0	489.0	3.51
174	162.3	1249.8	1046.3	3.69
175	239.5	670.4	492.5	3.65
176	165.3	1248.2	1044.2	3.74
177	205.1	950.3	753.7	3.67
178	242.5	670.5	492.1	3.62
179	168.2	1247.2	1042.7	3.71
180	208.0	950.2	753.1	3.67
181	245.4	670.6	491.7	3.62
182	256.0	592.0	423.1	3.69
183	171.1	1245.8	1040.7	3.70
184	211.0	949.5	751.9	3.64
185	174.1	1244.1	1038.5	3.66
186	213.9	949.1	751.0	3.60
187	251.4	671.0	491.1	3.61
188	177.0	1243.0	1036.9	3.64

189	254.4	671.1	490.7	3.61
190	180.0	1241.6	1035.0	3.58
191	182.9	1240.6	1033.6	3.58
192	222.7	948.1	748.4	3.56
193	260.3	671.4	489.9	3.57
194	185.9	1239.0	1031.4	3.56
195	225.7	947.5	747.3	3.54
196	248.4	780.8	589.4	3.54
197	263.3	671.6	489.6	3.56
198	188.7	1238.0	1030.0	3.55
199	266.3	671.8	489.3	3.54
200	191.7	1236.5	1027.9	3.54
201	231.5	946.8	745.7	3.49
202	269.3	672.0	489.0	3.51
203	194.7	1234.9	1025.8	3.42
204	234.5	946.3	744.7	3.49
205	272.2	672.1	488.6	3.51
206	162.3	1249.8	1046.3	3.69
207	239.5	670.4	492.5	3.65
208	165.3	1248.2	1044.2	3.74
209	205.1	950.3	753.7	3.67
210	242.5	670.5	492.1	3.62
211	168.2	1247.2	1042.7	3.71
212	208.0	950.2	753.1	3.67
213	245.4	670.6	491.7	3.62
214	256.0	592.0	423.1	3.69
215	171.1	1245.8	1040.7	3.70
216	211.0	949.5	751.9	3.64
217	174.1	1244.1	1038.5	3.66
218	213.9	949.1	751.0	3.60
219	251.4	671.0	491.1	3.61
220	177.0	1243.0	1036.9	3.64
221	254.4	671.1	490.7	3.61
222	180.0	1241.6	1035.0	3.58
223	182.9	1240.6	1033.6	3.58
224	222.7	948.1	748.4	3.56
225	260.3	671.4	489.9	3.57
226	185.9	1239.0	1031.4	3.56
227	225.7	947.5	747.3	3.54
228	248.4	780.8	589.4	3.54
229	263.3	671.6	489.6	3.56
230	188.7	1238.0	1030.0	3.55
231	266.3	671.8	489.3	3.54
232	191.7	1236.5	1027.9	3.54
233	231.5	946.8	745.7	3.49
234	269.3	672.0	489.0	3.51
235	194.7	1234.9	1025.8	3.42
236	234.5	946.3	744.7	3.49
237	272.2	672.1	488.6	3.51

238	197.6	1234.0	1024.4	3.41
239	275.2	672.2	488.1	3.49
240	162.3	1249.8	1046.3	3.69
241	239.5	670.4	492.5	3.65
242	165.3	1248.2	1044.2	3.74
243	205.1	950.3	753.7	3.67
244	242.5	670.5	492.1	3.62
245	168.2	1247.2	1042.7	3.71
246	208.0	950.2	753.1	3.67
247	245.4	670.6	491.7	3.62
248	256.0	592.0	423.1	3.69
249	171.1	1245.8	1040.7	3.70
250	211.0	949.5	751.9	3.64
251	174.1	1244.1	1038.5	3.66
252	213.9	949.1	751.0	3.60
253	251.4	671.0	491.1	3.61
254	177.0	1243.0	1036.9	3.64
255	254.4	671.1	490.7	3.61
256	180.0	1241.6	1035.0	3.58
257	182.9	1240.6	1033.6	3.58
258	222.7	948.1	748.4	3.56
259	260.3	671.4	489.9	3.57
260	185.9	1239.0	1031.4	3.56
261	225.7	947.5	747.3	3.54
262	248.4	780.8	589.4	3.54
263	263.3	671.6	489.6	3.56
264	188.7	1238.0	1030.0	3.55
265	266.3	671.8	489.3	3.54
266	191.7	1236.5	1027.9	3.54
267	231.5	946.8	745.7	3.49
268	269.3	672.0	489.0	3.51
269	194.7	1234.9	1025.8	3.42
270	234.5	946.3	744.7	3.49
271	272.2	672.1	488.6	3.51
272	197.6	1234.0	1024.4	3.41
273	275.2	672.2	488.1	3.49
274	200.6	1232.4	1022.3	3.40
275	278.2	672.5	487.9	3.48
276	288.9	595.0	420.3	3.51
277	162.3	1249.8	1046.3	3.69
278	239.5	670.4	492.5	3.65
279	165.3	1248.2	1044.2	3.74
280	205.1	950.3	753.7	3.67
281	242.5	670.5	492.1	3.62
282	168.2	1247.2	1042.7	3.71
283	208.0	950.2	753.1	3.67
284	245.4	670.6	491.7	3.62
285	256.0	592.0	423.1	3.69
286	171.1	1245.8	1040.7	3.70

287	211.0	949.5	751.9	3.64
288	174.1	1244.1	1038.5	3.66
289	213.9	949.1	751.0	3.60
290	251.4	671.0	491.1	3.61
291	177.0	1243.0	1036.9	3.64
292	254.4	671.1	490.7	3.61
293	180.0	1241.6	1035.0	3.58
294	182.9	1240.6	1033.6	3.58
295	222.7	948.1	748.4	3.56
296	260.3	671.4	489.9	3.57
297	185.9	1239.0	1031.4	3.56
298	225.7	947.5	747.3	3.54
299	248.4	780.8	589.4	3.54
300	263.3	671.6	489.6	3.56
301	188.7	1238.0	1030.0	3.55
302	266.3	671.8	489.3	3.54
303	191.7	1236.5	1027.9	3.54
304	231.5	946.8	745.7	3.49
305	269.3	672.0	489.0	3.51
306	194.7	1234.9	1025.8	3.42
307	234.5	946.3	744.7	3.49
308	272.2	672.1	488.6	3.51
309	197.6	1234.0	1024.4	3.41
310	275.2	672.2	488.1	3.49
311	200.6	1232.4	1022.3	3.40
312	278.2	672.5	487.9	3.48
313	288.9	595.0	420.3	3.51
314	203.5	1231.5	1020.9	3.38
315	243.3	945.3	742.0	3.48
316	162.3	1249.8	1046.3	3.69
317	239.5	670.4	492.5	3.65
318	165.3	1248.2	1044.2	3.74
319	205.1	950.3	753.7	3.67
320	242.5	670.5	492.1	3.62
321	168.2	1247.2	1042.7	3.71
322	208.0	950.2	753.1	3.67
323	245.4	670.6	491.7	3.62
324	256.0	592.0	423.1	3.69
325	171.1	1245.8	1040.7	3.70
326	211.0	949.5	751.9	3.64
327	174.1	1244.1	1038.5	3.66
328	213.9	949.1	751.0	3.60
329	251.4	671.0	491.1	3.61
330	177.0	1243.0	1036.9	3.64
331	254.4	671.1	490.7	3.61
332	180.0	1241.6	1035.0	3.58
333	182.9	1240.6	1033.6	3.58
334	222.7	948.1	748.4	3.56
335	260.3	671.4	489.9	3.57

336	185.9	1239.0	1031.4	3.56
337	225.7	947.5	747.3	3.54
338	248.4	780.8	589.4	3.54
339	263.3	671.6	489.6	3.56
340	188.7	1238.0	1030.0	3.55
341	266.3	671.8	489.3	3.54
342	191.7	1236.5	1027.9	3.54
343	231.5	946.8	745.7	3.49
344	269.3	672.0	489.0	3.51
345	194.7	1234.9	1025.8	3.42
346	234.5	946.3	744.7	3.49
347	272.2	672.1	488.6	3.51
348	197.6	1234.0	1024.4	3.41
349	275.2	672.2	488.1	3.49
350	200.6	1232.4	1022.3	3.40
351	278.2	672.5	487.9	3.48
352	288.9	595.0	420.3	3.51
353	203.5	1231.5	1020.9	3.38
354	243.3	945.3	742.0	3.48
355	206.5	1229.9	1018.8	3.36
356	246.3	944.6	740.8	3.44
357	284.2	672.7	487.1	3.42
358	162.3	1249.8	1046.3	3.69
359	239.5	670.4	492.5	3.65
360	165.3	1248.2	1044.2	3.74
361	205.1	950.3	753.7	3.67
362	242.5	670.5	492.1	3.62
363	168.2	1247.2	1042.7	3.71
364	208.0	950.2	753.1	3.67
365	245.4	670.6	491.7	3.62
366	256.0	592.0	423.1	3.69
367	171.1	1245.8	1040.7	3.70
368	211.0	949.5	751.9	3.64
369	174.1	1244.1	1038.5	3.66
370	213.9	949.1	751.0	3.60
371	251.4	671.0	491.1	3.61
372	177.0	1243.0	1036.9	3.64
373	254.4	671.1	490.7	3.61
374	180.0	1241.6	1035.0	3.58
375	182.9	1240.6	1033.6	3.58
376	222.7	948.1	748.4	3.56
377	260.3	671.4	489.9	3.57
378	185.9	1239.0	1031.4	3.56
379	225.7	947.5	747.3	3.54
380	248.4	780.8	589.4	3.54
381	263.3	671.6	489.6	3.56
382	188.7	1238.0	1030.0	3.55
383	266.3	671.8	489.3	3.54
384	191.7	1236.5	1027.9	3.54

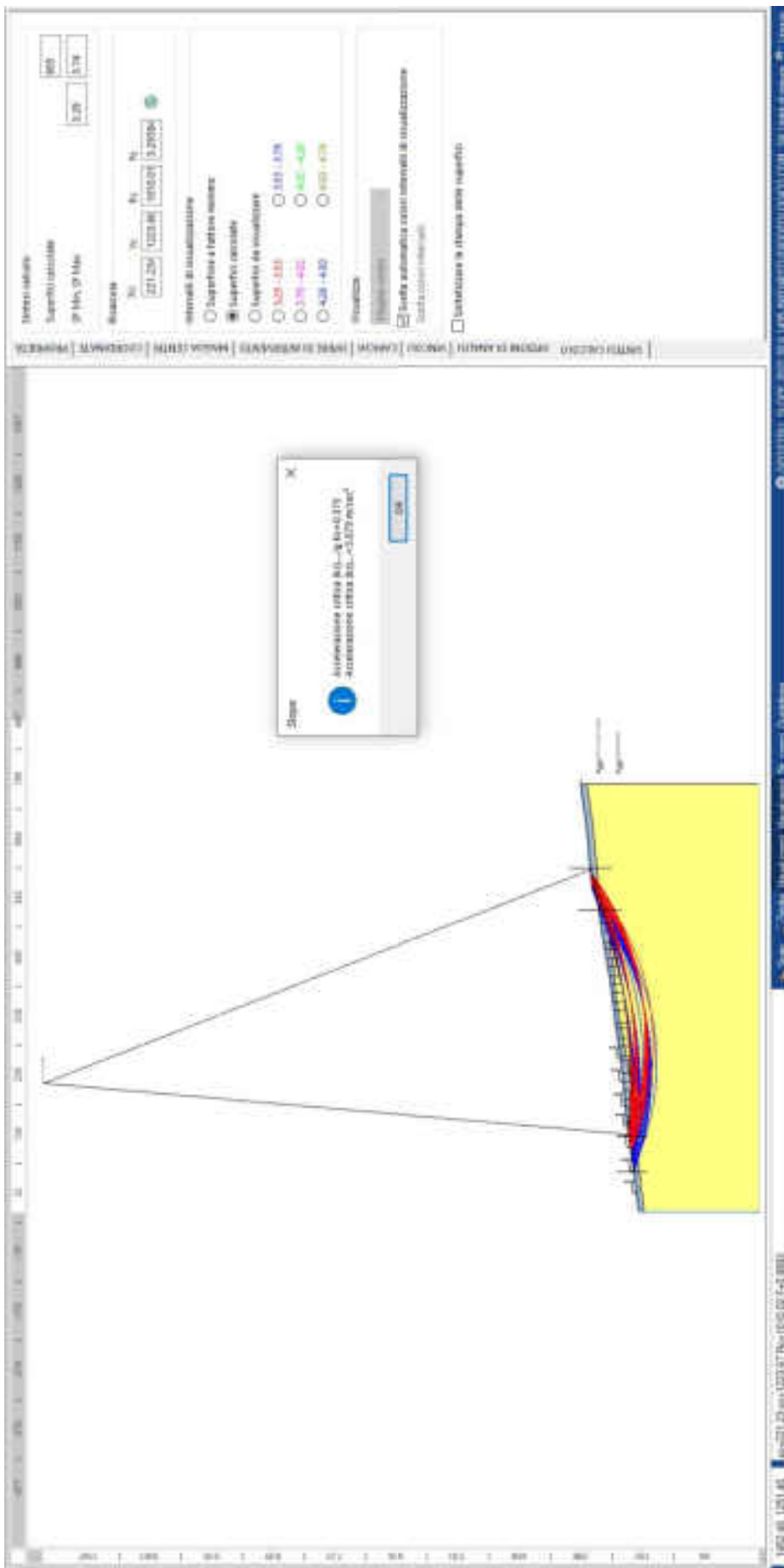
385	231.5	946.8	745.7	3.49
386	269.3	672.0	489.0	3.51
387	194.7	1234.9	1025.8	3.42
388	234.5	946.3	744.7	3.49
389	272.2	672.1	488.6	3.51
390	197.6	1234.0	1024.4	3.41
391	275.2	672.2	488.1	3.49
392	200.6	1232.4	1022.3	3.40
393	278.2	672.5	487.9	3.48
394	288.9	595.0	420.3	3.51
395	203.5	1231.5	1020.9	3.38
396	243.3	945.3	742.0	3.48
397	206.5	1229.9	1018.8	3.36
398	246.3	944.6	740.8	3.44
399	284.2	672.7	487.1	3.42
400	209.4	1228.9	1017.3	3.34
401	249.2	944.4	740.1	3.42
402	162.3	1249.8	1046.3	3.69
403	239.5	670.4	492.5	3.65
404	165.3	1248.2	1044.2	3.74
405	205.1	950.3	753.7	3.67
406	242.5	670.5	492.1	3.62
407	168.2	1247.2	1042.7	3.71
408	208.0	950.2	753.1	3.67
409	245.4	670.6	491.7	3.62
410	256.0	592.0	423.1	3.69
411	171.1	1245.8	1040.7	3.70
412	211.0	949.5	751.9	3.64
413	174.1	1244.1	1038.5	3.66
414	213.9	949.1	751.0	3.60
415	251.4	671.0	491.1	3.61
416	177.0	1243.0	1036.9	3.64
417	254.4	671.1	490.7	3.61
418	180.0	1241.6	1035.0	3.58
419	182.9	1240.6	1033.6	3.58
420	222.7	948.1	748.4	3.56
421	260.3	671.4	489.9	3.57
422	185.9	1239.0	1031.4	3.56
423	225.7	947.5	747.3	3.54
424	248.4	780.8	589.4	3.54
425	263.3	671.6	489.6	3.56
426	188.7	1238.0	1030.0	3.55
427	266.3	671.8	489.3	3.54
428	191.7	1236.5	1027.9	3.54
429	231.5	946.8	745.7	3.49
430	269.3	672.0	489.0	3.51
431	194.7	1234.9	1025.8	3.42
432	234.5	946.3	744.7	3.49
433	272.2	672.1	488.6	3.51

434	197.6	1234.0	1024.4	3.41
435	275.2	672.2	488.1	3.49
436	200.6	1232.4	1022.3	3.40
437	278.2	672.5	487.9	3.48
438	288.9	595.0	420.3	3.51
439	203.5	1231.5	1020.9	3.38
440	243.3	945.3	742.0	3.48
441	206.5	1229.9	1018.8	3.36
442	246.3	944.6	740.8	3.44
443	284.2	672.7	487.1	3.42
444	209.4	1228.9	1017.3	3.34
445	249.2	944.4	740.1	3.42
446	212.4	1227.5	1015.4	3.33
447	252.1	944.0	739.3	3.42
448	290.1	673.1	486.4	3.39
449	162.3	1249.8	1046.3	3.69
450	239.5	670.4	492.5	3.65
451	165.3	1248.2	1044.2	3.74
452	205.1	950.3	753.7	3.67
453	242.5	670.5	492.1	3.62
454	168.2	1247.2	1042.7	3.71
455	208.0	950.2	753.1	3.67
456	245.4	670.6	491.7	3.62
457	256.0	592.0	423.1	3.69
458	171.1	1245.8	1040.7	3.70
459	211.0	949.5	751.9	3.64
460	174.1	1244.1	1038.5	3.66
461	213.9	949.1	751.0	3.60
462	251.4	671.0	491.1	3.61
463	177.0	1243.0	1036.9	3.64
464	254.4	671.1	490.7	3.61
465	180.0	1241.6	1035.0	3.58
466	182.9	1240.6	1033.6	3.58
467	222.7	948.1	748.4	3.56
468	260.3	671.4	489.9	3.57
469	185.9	1239.0	1031.4	3.56
470	225.7	947.5	747.3	3.54
471	248.4	780.8	589.4	3.54
472	263.3	671.6	489.6	3.56
473	188.7	1238.0	1030.0	3.55
474	266.3	671.8	489.3	3.54
475	191.7	1236.5	1027.9	3.54
476	231.5	946.8	745.7	3.49
477	269.3	672.0	489.0	3.51
478	194.7	1234.9	1025.8	3.42
479	234.5	946.3	744.7	3.49
480	272.2	672.1	488.6	3.51
481	197.6	1234.0	1024.4	3.41
482	275.2	672.2	488.1	3.49

483	200.6	1232.4	1022.3	3.40
484	278.2	672.5	487.9	3.48
485	288.9	595.0	420.3	3.51
486	203.5	1231.5	1020.9	3.38
487	243.3	945.3	742.0	3.48
488	206.5	1229.9	1018.8	3.36
489	246.3	944.6	740.8	3.44
490	284.2	672.7	487.1	3.42
491	209.4	1228.9	1017.3	3.34
492	249.2	944.4	740.1	3.42
493	212.4	1227.5	1015.4	3.33
494	252.1	944.0	739.3	3.42
495	290.1	673.1	486.4	3.39
496	215.3	1226.6	1014.0	3.32
497	255.1	943.4	738.2	3.40
498	293.1	673.2	486.0	3.40
499	162.3	1249.8	1046.3	3.69
500	239.5	670.4	492.5	3.65
501	165.3	1248.2	1044.2	3.74
502	205.1	950.3	753.7	3.67
503	242.5	670.5	492.1	3.62
504	168.2	1247.2	1042.7	3.71
505	208.0	950.2	753.1	3.67
506	245.4	670.6	491.7	3.62
507	256.0	592.0	423.1	3.69
508	171.1	1245.8	1040.7	3.70
509	211.0	949.5	751.9	3.64
510	174.1	1244.1	1038.5	3.66
511	213.9	949.1	751.0	3.60
512	251.4	671.0	491.1	3.61
513	177.0	1243.0	1036.9	3.64
514	254.4	671.1	490.7	3.61
515	180.0	1241.6	1035.0	3.58
516	182.9	1240.6	1033.6	3.58
517	222.7	948.1	748.4	3.56
518	260.3	671.4	489.9	3.57
519	185.9	1239.0	1031.4	3.56
520	225.7	947.5	747.3	3.54
521	248.4	780.8	589.4	3.54
522	263.3	671.6	489.6	3.56
523	188.7	1238.0	1030.0	3.55
524	266.3	671.8	489.3	3.54
525	191.7	1236.5	1027.9	3.54
526	231.5	946.8	745.7	3.49
527	269.3	672.0	489.0	3.51
528	194.7	1234.9	1025.8	3.42
529	234.5	946.3	744.7	3.49
530	272.2	672.1	488.6	3.51
531	197.6	1234.0	1024.4	3.41

532	275.2	672.2	488.1	3.49
533	200.6	1232.4	1022.3	3.40
534	278.2	672.5	487.9	3.48
535	288.9	595.0	420.3	3.51
536	203.5	1231.5	1020.9	3.38
537	243.3	945.3	742.0	3.48
538	206.5	1229.9	1018.8	3.36
539	246.3	944.6	740.8	3.44
540	284.2	672.7	487.1	3.42
541	209.4	1228.9	1017.3	3.34
542	249.2	944.4	740.1	3.42
543	212.4	1227.5	1015.4	3.33
544	252.1	944.0	739.3	3.42
545	290.1	673.1	486.4	3.39
546	215.3	1226.6	1014.0	3.32
547	255.1	943.4	738.2	3.40
548	293.1	673.2	486.0	3.40
549	218.2	1225.2	1012.1	3.31
550	296.1	673.5	485.8	3.37
551	162.3	1249.8	1046.3	3.69
552	239.5	670.4	492.5	3.65
553	165.3	1248.2	1044.2	3.74
554	205.1	950.3	753.7	3.67
555	242.5	670.5	492.1	3.62
556	168.2	1247.2	1042.7	3.71
557	208.0	950.2	753.1	3.67
558	245.4	670.6	491.7	3.62
559	256.0	592.0	423.1	3.69
560	171.1	1245.8	1040.7	3.70
561	211.0	949.5	751.9	3.64
562	174.1	1244.1	1038.5	3.66
563	213.9	949.1	751.0	3.60
564	251.4	671.0	491.1	3.61
565	177.0	1243.0	1036.9	3.64
566	254.4	671.1	490.7	3.61
567	180.0	1241.6	1035.0	3.58
568	182.9	1240.6	1033.6	3.58
569	222.7	948.1	748.4	3.56
570	260.3	671.4	489.9	3.57
571	185.9	1239.0	1031.4	3.56
572	225.7	947.5	747.3	3.54
573	248.4	780.8	589.4	3.54
574	263.3	671.6	489.6	3.56
575	188.7	1238.0	1030.0	3.55
576	266.3	671.8	489.3	3.54
577	191.7	1236.5	1027.9	3.54
578	231.5	946.8	745.7	3.49
579	269.3	672.0	489.0	3.51
580	194.7	1234.9	1025.8	3.42

581	234.5	946.3	744.7	3.49
582	272.2	672.1	488.6	3.51
583	197.6	1234.0	1024.4	3.41
584	275.2	672.2	488.1	3.49
585	200.6	1232.4	1022.3	3.40
586	278.2	672.5	487.9	3.48
587	288.9	595.0	420.3	3.51
588	203.5	1231.5	1020.9	3.38
589	243.3	945.3	742.0	3.48
590	206.5	1229.9	1018.8	3.36
591	246.3	944.6	740.8	3.44
592	284.2	672.7	487.1	3.42
593	209.4	1228.9	1017.3	3.34
594	249.2	944.4	740.1	3.42
595	212.4	1227.5	1015.4	3.33
596	252.1	944.0	739.3	3.42
597	290.1	673.1	486.4	3.39
598	215.3	1226.6	1014.0	3.32
599	255.1	943.4	738.2	3.40
600	293.1	673.2	486.0	3.40
601	218.2	1225.2	1012.1	3.31
602	296.1	673.5	485.8	3.37
603	221.2	1223.7	1010.0	3.29
604	261.0	943.0	736.7	3.37
605	299.1	673.5	485.3	3.36



Metri naturali

Superfici calcolate

SP Min. SP Max.

Successo

SP

SP

SP

SP

SP

SP

SP

SP

SP

SP

SP

SP

SP

SP

SP

SP

SP

SP

SP

SP

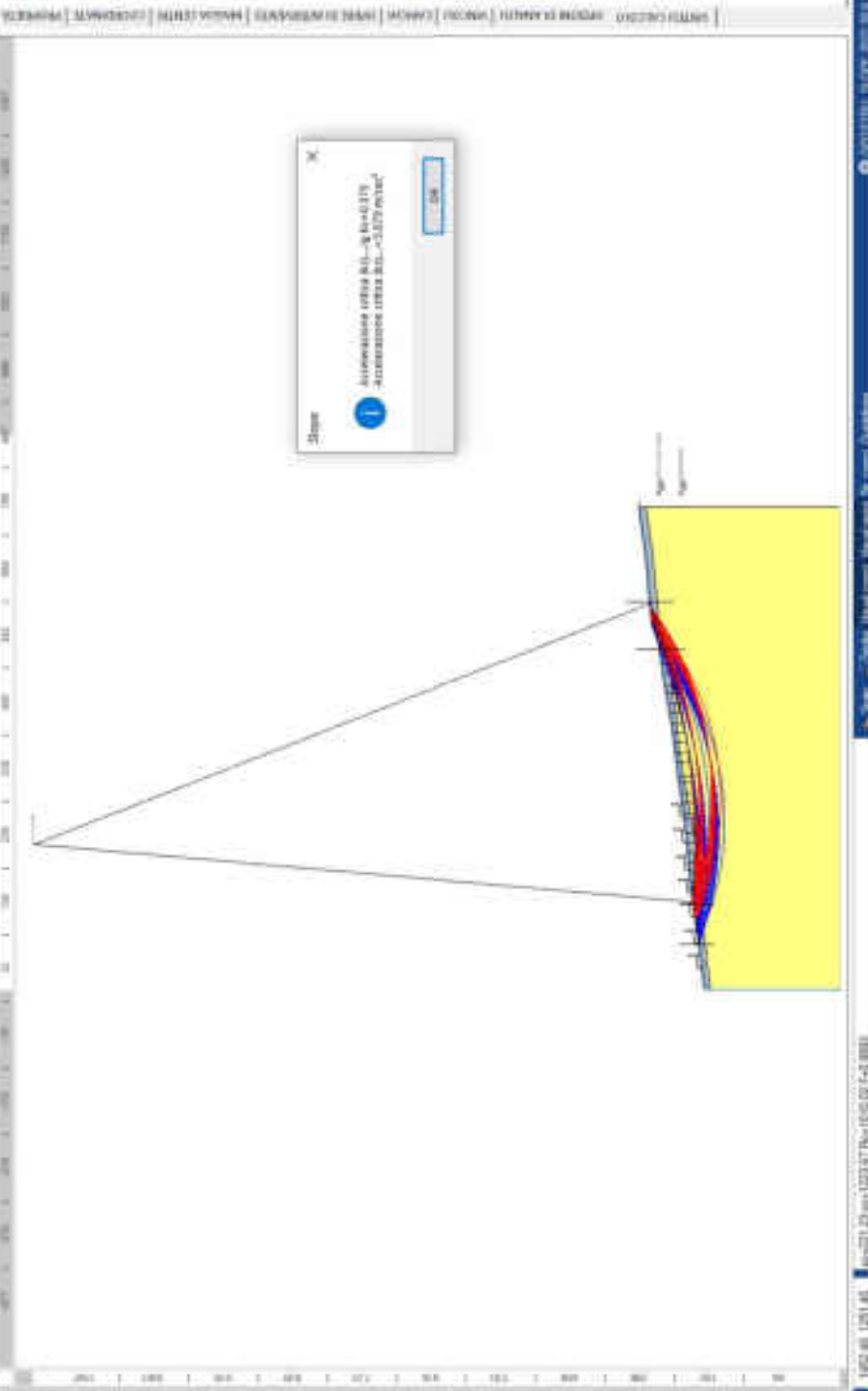
SP

SP

SP

SP

SP



Slope

Accelerazione orizz. (m/s²) = 0.000000
 Accelerazione vert. (m/s²) = -0.000000
 Accelerazione orizz. (g) = 0.000000
 Accelerazione vert. (g) = -0.000000

OK

Verifica di stabilità F-13-0113 - Condizioni pseudostatiche - Superficie generica

Analisi di stabilità dei pendii con: JANBU (1967)

Calcolo eseguito secondo	Utente
Numero di strati	2.0
Numero dei conci	30.0
Grado di sicurezza ritenuto accettabile	1.0
Coefficiente parziale resistenza	1.0
Analisi	Condizione drenata
Superficie di forma generica	

Sisma

Coefficiente azione sismica orizzontale	0.021
Coefficiente azione sismica verticale	0.01

Vertici profilo

Nr	X (m)	y (m)
1	0.0	0.0
2	0.0	200.0
3	82.84	210.16
4	151.75	220.16
5	260.54	230.16
6	325.93	240.16
7	406.81	250.16
8	462.11	260.16
9	530.72	270.16
10	557.42	280.16
11	668.66	290.14
12	737.77	300.16

Falda

Nr.	X (m)	y (m)
1	0.0	0.0
2	0.0	197.0
3	82.84	207.16
4	151.75	217.16
5	260.54	227.16
6	325.93	237.16
7	406.81	247.16
8	462.11	257.16
9	530.72	267.16
10	557.42	277.16
11	668.66	287.14
12	737.77	297.16

Vertici strato1

N	X (m)	y (m)
1	0.0	0.0
2	0.0	190.3
3	94.77	201.89
4	213.77	210.86
5	261.42	220.0
6	264.03	220.28
7	362.7	237.72
8	420.77	242.69
9	450.77	248.11
10	503.77	253.23
11	515.5	256.41
12	549.77	267.29
13	671.05	279.3
14	737.77	288.73

Vertici superficie Nr...1

N	X m	y m
1	94.66	211.98
2	103.7	207.9
3	118.3	205.3
4	141.7	205.4
5	213.7	210.8
6	264.0	220.2
7	362.7	237.7
8	420.7	242.6
9	450.7	248.1
10	503.7	253.2
11	515.4	256.4
12	555.4	269.0
13	604.81	284.43

Coefficients parziali azioni

Sfavorevoli: Permanenti, variabili	1.0	1.0
Favorevoli: Permanenti, variabili	1.0	1.0

Coefficients parziali per i parametri geotecnici del terreno

Tangente angolo di resistenza al taglio	1.25
Coazione efficace	1.25
Coazione non drenata	1.4
Riduzione parametri geotecnici terreno	No

Stratigrafia

Strato	Coazione	Coazione	Angolo	Peso unità di	Peso saturo	Litologia
--------	----------	----------	--------	---------------	-------------	-----------

	(kg/cm ²)	non drenata (kg/cm ²)	resistenza al taglio (°)	volume (Kg/m ³)	(Kg/m ³)		
1	0,13		24,4	2030	2230	SUBSTRATO GEOLOGICO ALTERATO E DECOMPR ESSO - Argilla limoso-marn osa con sabbia	
2	0,35		26	2100	2300	SUBSTRATO GEOLOGICO O - Argilla marnosa con intercalazion i sabbiose	

G0: Modulo di taglio dinamico a basse deformazioni; G: Modulo di taglio dinamico; Dr: Densità relativa; OCR: Grado di sovraconsolidazione; IP: Indice di plasticità

Strato	G0 (KPa)	G (KPa)	Dr (%)	OCR	IP (%)
1	11520	8640	0	1	34
2	627200	470400	0	4	44

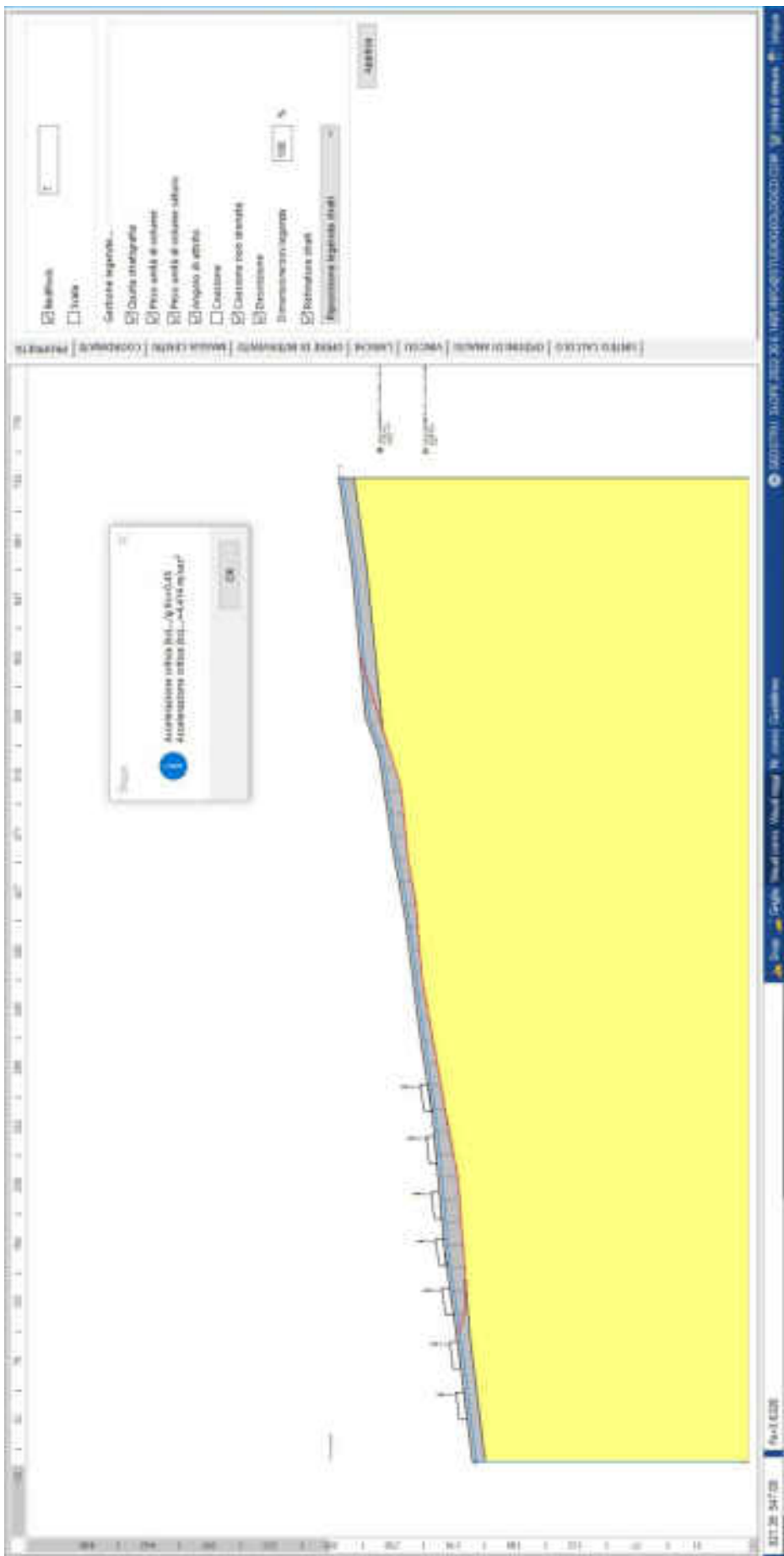
Carichi distribuiti

N°	xi (m)	yi (m)	xf (m)	yf (m)	Carico esterno (kg/cm ²)
1	32.34	204.01	52.34	206.4633	0.3
2	70.27	208.73	90.27	211.1833	0.3
3	110.46	214.11	130.46	217.0121	0.3
4	147.26	219	167.26	221.9021	0.3
5	182.85	222.99	202.85	224.8285	0.3
6	224.43	226.77	244.43	228.6085	0.3
7	262.97	230.27	282.97	233.3288	0.3

Superficie Nr...1 Fattore di sicurezza=3.63

Nr.	B m	Alfa (°)	Li m	Wi (Kg)	Kh•Wi (Kg)	Kv•Wi (Kg)	c (kg/cm ²)	Fi (°)	Ui (Kg)	N'i (Kg)	Ti (Kg)
1	17.0	-17.8	17.8143791.1	3019.61	1437.91	0.13	24.416218.5141670.125282.9				
2	17.0	-3.7	17.0408420.0	8576.82	4084.2	0.13	24.4113871.8298009.543401.5				
3	17.0	1.2	17.0470011.7	9870.25	4700.12	0.13	24.4162166.6306964.844425.9				
4	17.0	4.3	17.0568999.3	11948.98	5689.99	0.35	26.0	0.0563687.1	92364.1		
5	17.0	4.3	17.0546620.6	11479.03	5466.21	0.35	26.0	0.0541469.4	89372.6		

6	17.0	4.3	17.0585999.6	12305.99	5860.0	0.35	26.0	0.0580565.2	94636.6
7	17.0	4.3	17.0572964.1	12032.25	5729.64	0.35	26.0	0.0567593.9	92895.0
8	17.0	10.6	17.3548725.1	11523.23	5487.25	0.35	26.0	0.0541520.7	90907.4
9	17.0	10.6	17.3509432.7	10698.09	5094.33	0.35	26.0	0.0502533.1	85595.4
10	17.0	10.5	17.3413100.6	8675.11	4131.01	0.35	26.0	0.0406924.9	72513.5
11	17.0	10.1	17.3430057.2	9031.2	4300.57	0.35	26.0	0.0423728.9	74672.0
12	17.0	10.1	17.3366818.9	7703.2	3668.19	0.35	26.0	0.0360997.3	66117.8
13	17.0	10.1	17.3347456.3	7296.58	3474.56	0.35	26.0	0.0341789.9	63498.7
14	17.0	10.1	17.3331650.6	6964.66	3316.51	0.35	26.0	0.0326110.8	61360.6
15	17.0	10.0	17.3299060.6	6280.27	2990.61	0.35	26.0	0.0293785.0	56943.7
16	17.0	8.9	17.2271826.5	5708.36	2718.27	0.35	26.0	0.0266940.7	53045.5
17	17.0	4.8	17.1274027.9	5754.59	2740.28	0.35	26.0	0.0270556.2	52946.4
18	17.0	4.8	17.1299476.8	6289.01	2994.77	0.35	26.0	0.0295809.8	56349.1
19	17.0	4.9	17.1330012.5	6930.26	3300.13	0.35	26.0	0.0326088.4	60433.3
20	17.0	9.4	17.2365567.0	7676.91	3655.67	0.13	24.4	117553.7245299.5	37301.9
21	17.0	10.1	17.3371376.2	7798.9	3713.76	0.35	26.0	0.0365517.8	66738.0
22	17.0	5.5	17.1399345.2	8386.25	3993.45	0.35	26.0	0.0394492.4	69743.1
23	17.0	5.5	17.1433612.2	9105.86	4336.12	0.35	26.0	0.0428500.3	74324.4
24	17.0	5.5	17.1465622.9	9778.08	4656.23	0.35	26.0	0.0460249.0	78606.8
25	17.0	15.3	17.6440178.9	9243.76	4401.79	0.13	24.4	150891.0288364.043878.5	
26	17.0	17.5	17.8344325.0	7230.82	3443.25	0.35	26.0	0.0341163.4	66023.7
27	17.0	17.5	17.8361223.7	7585.7	3612.24	0.35	26.0	0.0358161.6	68416.5
28	17.0	17.4	17.8348318.2	7314.68	3483.18	0.13	24.4	109796.1238607.937898.2	
29	17.0	17.3	17.8204797.8	4300.76	2047.98	0.13	24.4	45456.6158746.227441.3	
30	17.0	17.3	17.865246.75	1370.18	652.47	0.13	24.4	0.063873.2	15031.3



Verifica di stabilità F-14-0287 - Condizioni statiche - Superfici circolari

Analisi di stabilità dei pendii con: JANBU (1967)

Calcolo eseguito secondo	Utente
Numero di strati	2.0
Numero dei conci	30.0
Grado di sicurezza ritenuto accettabile	1.0
Coefficiente parziale resistenza	1.0
Analisi	Condizione drenata
Superficie di forma circolare	

Maglia dei Centri

Ascissa vertice sinistro inferiore xi	307.73 m
Ordinata vertice sinistro inferiore yi	467.54 m
Ascissa vertice destro superiore xs	764.63 m
Ordinata vertice destro superiore ys	838.2 m
Passo di ricerca	10.0
Numero di celle lungo x	10.0
Numero di celle lungo y	10.0

Vertici profilo

Nr	X (m)	y (m)	
1	0.0	0.0	
2	0.0	200.0	
3	245.74	210.05	
4	317.76	220.05	
5	394.95	230.05	
6	473.39	240.05	
7	570.5	250.05	
8	647.21	260.05	
9	705.97	270.05	
10	780.21	280.05	
11	857.97	290.05	
12	920.92	300.05	
13	1001.72	313.76	

Falda

Nr.	X (m)	y (m)	
1	0.0	0.0	
2	0.0	197.0	
3	245.74	207.05	

4	317.76	217.05
5	394.95	227.05
6	473.39	237.05
7	570.5	247.05
8	647.21	257.05
9	705.97	267.05
10	780.21	277.05
11	857.97	287.05
12	920.92	297.05
13	1001.72	310.76

Vertici strato1

N	X (m)	y (m)
1	0.0	0.0
2	0.0	185.0
3	244.72	195.01
4	337.22	207.77
5	342.09	208.74
6	497.22	227.63
7	507.8	229.5
8	624.72	244.12
9	671.72	246.92
10	723.72	259.44
11	851.19	275.67
12	1001.72	298.76

Coefficienti parziali azioni

Sfavorevoli: Permanenti, variabili	1.0	1.0
Favorevoli: Permanenti, variabili	1.0	1.0

Coefficienti parziali per i parametri geotecnici del terreno

Tangente angolo di resistenza al taglio	1.25
Coesione efficace	1.25
Coesione non drenata	1.4
Riduzione parametri geotecnici terreno	No

Stratigrafia

Strato	Coesione (kg/cm2)	Coesione non drenata (kg/cm2)	Angolo resistenza al taglio (°)	Peso unità di volume (Kg/m3)	Peso saturo (Kg/m3)	Litologia	
1	0,11	0	25,8	1980	2180	SUBSTRATO GEOLOGICI	

							CO ALTERAT O E DECOMPR ESSO - Argilla limoso-mar nosa con sabbia	
2	0,35	0	26	2100	2300	SUBSTRA TO GEOLOGI CO - Argilla marnosa con intercalazio ni sabbiose		

G0: Modulo di taglio dinamico a basse deformazioni; G: Modulo di taglio dinamico; Dr: Densità relativa; OCR: Grado di sovraconsolidazione; IP: Indice di plasticità

Strato	G0 (KPa)	G (KPa)	Dr (%)	OCR	IP (%)
1	18000	13500	0	1	36.1
2	288800	216600	0	4	34.4

Carichi distribuiti

N°	xi (m)	yi (m)	xf (m)	yf (m)	Carico esterno (kg/cm2)
1	558.31	249	578.31	251.0596	0.2
2	591.46	252.85	611.46	255.4571	0.2
3	623.04	256.86	643.04	259.4671	0.2
4	654.34	261.23	674.34	264.6339	0.2
5	689.35	267.15	709.35	270.5539	0.2
6	723.03	272.4	743.03	275.0938	0.2
7	757.85	277.07	777.85	279.7638	0.2

Risultati analisi pendio [STATICA]

Fs minimo individuato	4.13
Ascissa centro superficie	467.59 m
Ordinata centro superficie	959.76 m
Raggio superficie	772.31 m

Numero di superfici esaminate....(475)

Nº	Xo	Yo	Ro	Fs
1	332.4	1594.3	1392.1	4.27
2	383.4	1184.9	992.5	4.23
3	430.1	809.3	640.5	4.22
4	332.4	1594.3	1392.1	4.27
5	383.4	1184.9	992.5	4.23
6	430.1	809.3	640.5	4.22
7	336.4	1593.8	1391.2	4.25
8	434.1	810.0	640.7	4.22
9	332.4	1594.3	1392.1	4.27
10	383.4	1184.9	992.5	4.23
11	430.1	809.3	640.5	4.22
12	336.4	1593.8	1391.2	4.25
13	434.1	810.0	640.7	4.22
14	340.4	1593.2	1390.1	4.23
15	419.7	957.4	775.5	4.19
16	438.1	810.1	640.3	4.21
17	332.4	1594.3	1392.1	4.27
18	383.4	1184.9	992.5	4.23
19	430.1	809.3	640.5	4.22
20	336.4	1593.8	1391.2	4.25
21	434.1	810.0	640.7	4.22
22	340.4	1593.2	1390.1	4.23
23	419.7	957.4	775.5	4.19
24	438.1	810.1	640.3	4.21
25	344.4	1592.8	1389.3	4.22
26	395.3	1184.9	991.2	4.20
27	423.7	957.6	775.2	4.18
28	332.4	1594.3	1392.1	4.27
29	383.4	1184.9	992.5	4.23
30	430.1	809.3	640.5	4.22
31	336.4	1593.8	1391.2	4.25
32	434.1	810.0	640.7	4.22
33	340.4	1593.2	1390.1	4.23
34	419.7	957.4	775.5	4.19
35	438.1	810.1	640.3	4.21
36	344.4	1592.8	1389.3	4.22
37	395.3	1184.9	991.2	4.20
38	423.7	957.6	775.2	4.18
39	348.3	1592.7	1388.7	4.23
40	399.2	1185.3	991.1	4.20
41	427.7	957.9	775.1	4.18
42	446.1	810.7	640.0	4.18
43	332.4	1594.3	1392.1	4.27
44	383.4	1184.9	992.5	4.23
45	430.1	809.3	640.5	4.22
46	336.4	1593.8	1391.2	4.25
47	434.1	810.0	640.7	4.22

48	340.4	1593.2	1390.1	4.23
49	419.7	957.4	775.5	4.19
50	438.1	810.1	640.3	4.21
51	344.4	1592.8	1389.3	4.22
52	395.3	1184.9	991.2	4.20
53	423.7	957.6	775.2	4.18
54	348.3	1592.7	1388.7	4.23
55	399.2	1185.3	991.1	4.20
56	427.7	957.9	775.1	4.18
57	446.1	810.7	640.0	4.18
58	352.3	1592.1	1387.7	4.23
59	450.1	811.0	639.9	4.19
60	332.4	1594.3	1392.1	4.27
61	383.4	1184.9	992.5	4.23
62	430.1	809.3	640.5	4.22
63	336.4	1593.8	1391.2	4.25
64	434.1	810.0	640.7	4.22
65	340.4	1593.2	1390.1	4.23
66	419.7	957.4	775.5	4.19
67	438.1	810.1	640.3	4.21
68	344.4	1592.8	1389.3	4.22
69	395.3	1184.9	991.2	4.20
70	423.7	957.6	775.2	4.18
71	348.3	1592.7	1388.7	4.23
72	399.2	1185.3	991.1	4.20
73	427.7	957.9	775.1	4.18
74	446.1	810.7	640.0	4.18
75	352.3	1592.1	1387.7	4.23
76	450.1	811.0	639.9	4.19
77	356.3	1591.7	1386.8	4.24
78	407.2	1185.2	990.0	4.18
79	454.1	811.3	639.7	4.18
80	332.4	1594.3	1392.1	4.27
81	383.4	1184.9	992.5	4.23
82	430.1	809.3	640.5	4.22
83	336.4	1593.8	1391.2	4.25
84	434.1	810.0	640.7	4.22
85	340.4	1593.2	1390.1	4.23
86	419.7	957.4	775.5	4.19
87	438.1	810.1	640.3	4.21
88	344.4	1592.8	1389.3	4.22
89	395.3	1184.9	991.2	4.20
90	423.7	957.6	775.2	4.18
91	348.3	1592.7	1388.7	4.23
92	399.2	1185.3	991.1	4.20
93	427.7	957.9	775.1	4.18
94	446.1	810.7	640.0	4.18
95	352.3	1592.1	1387.7	4.23
96	450.1	811.0	639.9	4.19

97	356.3	1591.7	1386.8	4.24
98	407.2	1185.2	990.0	4.18
99	454.1	811.3	639.7	4.18
100	360.3	1591.1	1385.8	4.24
101	411.2	1185.2	989.6	4.17
102	458.1	811.5	639.5	4.18
103	332.4	1594.3	1392.1	4.27
104	383.4	1184.9	992.5	4.23
105	430.1	809.3	640.5	4.22
106	336.4	1593.8	1391.2	4.25
107	434.1	810.0	640.7	4.22
108	340.4	1593.2	1390.1	4.23
109	419.7	957.4	775.5	4.19
110	438.1	810.1	640.3	4.21
111	344.4	1592.8	1389.3	4.22
112	395.3	1184.9	991.2	4.20
113	423.7	957.6	775.2	4.18
114	348.3	1592.7	1388.7	4.23
115	399.2	1185.3	991.1	4.20
116	427.7	957.9	775.1	4.18
117	446.1	810.7	640.0	4.18
118	352.3	1592.1	1387.7	4.23
119	450.1	811.0	639.9	4.19
120	356.3	1591.7	1386.8	4.24
121	407.2	1185.2	990.0	4.18
122	454.1	811.3	639.7	4.18
123	360.3	1591.1	1385.8	4.24
124	411.2	1185.2	989.6	4.17
125	458.1	811.5	639.5	4.18
126	364.2	1591.4	1385.6	4.20
127	415.2	1185.5	989.4	4.15
128	462.1	812.0	639.5	4.17
129	332.4	1594.3	1392.1	4.27
130	383.4	1184.9	992.5	4.23
131	430.1	809.3	640.5	4.22
132	336.4	1593.8	1391.2	4.25
133	434.1	810.0	640.7	4.22
134	340.4	1593.2	1390.1	4.23
135	419.7	957.4	775.5	4.19
136	438.1	810.1	640.3	4.21
137	344.4	1592.8	1389.3	4.22
138	395.3	1184.9	991.2	4.20
139	423.7	957.6	775.2	4.18
140	348.3	1592.7	1388.7	4.23
141	399.2	1185.3	991.1	4.20
142	427.7	957.9	775.1	4.18
143	446.1	810.7	640.0	4.18
144	352.3	1592.1	1387.7	4.23
145	450.1	811.0	639.9	4.19

146	356.3	1591.7	1386.8	4.24
147	407.2	1185.2	990.0	4.18
148	454.1	811.3	639.7	4.18
149	360.3	1591.1	1385.8	4.24
150	411.2	1185.2	989.6	4.17
151	458.1	811.5	639.5	4.18
152	364.2	1591.4	1385.6	4.20
153	415.2	1185.5	989.4	4.15
154	462.1	812.0	639.5	4.17
155	368.2	1590.7	1384.5	4.18
156	419.1	1185.4	989.0	4.15
157	466.0	812.5	639.5	4.17
158	332.4	1594.3	1392.1	4.27
159	383.4	1184.9	992.5	4.23
160	430.1	809.3	640.5	4.22
161	336.4	1593.8	1391.2	4.25
162	434.1	810.0	640.7	4.22
163	340.4	1593.2	1390.1	4.23
164	419.7	957.4	775.5	4.19
165	438.1	810.1	640.3	4.21
166	344.4	1592.8	1389.3	4.22
167	395.3	1184.9	991.2	4.20
168	423.7	957.6	775.2	4.18
169	348.3	1592.7	1388.7	4.23
170	399.2	1185.3	991.1	4.20
171	427.7	957.9	775.1	4.18
172	446.1	810.7	640.0	4.18
173	352.3	1592.1	1387.7	4.23
174	450.1	811.0	639.9	4.19
175	356.3	1591.7	1386.8	4.24
176	407.2	1185.2	990.0	4.18
177	454.1	811.3	639.7	4.18
178	360.3	1591.1	1385.8	4.24
179	411.2	1185.2	989.6	4.17
180	458.1	811.5	639.5	4.18
181	364.2	1591.4	1385.6	4.20
182	415.2	1185.5	989.4	4.15
183	462.1	812.0	639.5	4.17
184	368.2	1590.7	1384.5	4.18
185	419.1	1185.4	989.0	4.15
186	466.0	812.5	639.5	4.17
187	372.2	1590.2	1383.5	4.22
188	470.1	812.6	639.1	4.17
189	332.4	1594.3	1392.1	4.27
190	383.4	1184.9	992.5	4.23
191	430.1	809.3	640.5	4.22
192	336.4	1593.8	1391.2	4.25
193	434.1	810.0	640.7	4.22
194	340.4	1593.2	1390.1	4.23

195	419.7	957.4	775.5	4.19
196	438.1	810.1	640.3	4.21
197	344.4	1592.8	1389.3	4.22
198	395.3	1184.9	991.2	4.20
199	423.7	957.6	775.2	4.18
200	348.3	1592.7	1388.7	4.23
201	399.2	1185.3	991.1	4.20
202	427.7	957.9	775.1	4.18
203	446.1	810.7	640.0	4.18
204	352.3	1592.1	1387.7	4.23
205	450.1	811.0	639.9	4.19
206	356.3	1591.7	1386.8	4.24
207	407.2	1185.2	990.0	4.18
208	454.1	811.3	639.7	4.18
209	360.3	1591.1	1385.8	4.24
210	411.2	1185.2	989.6	4.17
211	458.1	811.5	639.5	4.18
212	364.2	1591.4	1385.6	4.20
213	415.2	1185.5	989.4	4.15
214	462.1	812.0	639.5	4.17
215	368.2	1590.7	1384.5	4.18
216	419.1	1185.4	989.0	4.15
217	466.0	812.5	639.5	4.17
218	372.2	1590.2	1383.5	4.22
219	470.1	812.6	639.1	4.17
220	376.2	1589.5	1382.4	4.21
221	474.1	812.7	638.8	4.17
222	332.4	1594.3	1392.1	4.27
223	383.4	1184.9	992.5	4.23
224	430.1	809.3	640.5	4.22
225	336.4	1593.8	1391.2	4.25
226	434.1	810.0	640.7	4.22
227	340.4	1593.2	1390.1	4.23
228	419.7	957.4	775.5	4.19
229	438.1	810.1	640.3	4.21
230	344.4	1592.8	1389.3	4.22
231	395.3	1184.9	991.2	4.20
232	423.7	957.6	775.2	4.18
233	348.3	1592.7	1388.7	4.23
234	399.2	1185.3	991.1	4.20
235	427.7	957.9	775.1	4.18
236	446.1	810.7	640.0	4.18
237	352.3	1592.1	1387.7	4.23
238	450.1	811.0	639.9	4.19
239	356.3	1591.7	1386.8	4.24
240	407.2	1185.2	990.0	4.18
241	454.1	811.3	639.7	4.18
242	360.3	1591.1	1385.8	4.24
243	411.2	1185.2	989.6	4.17

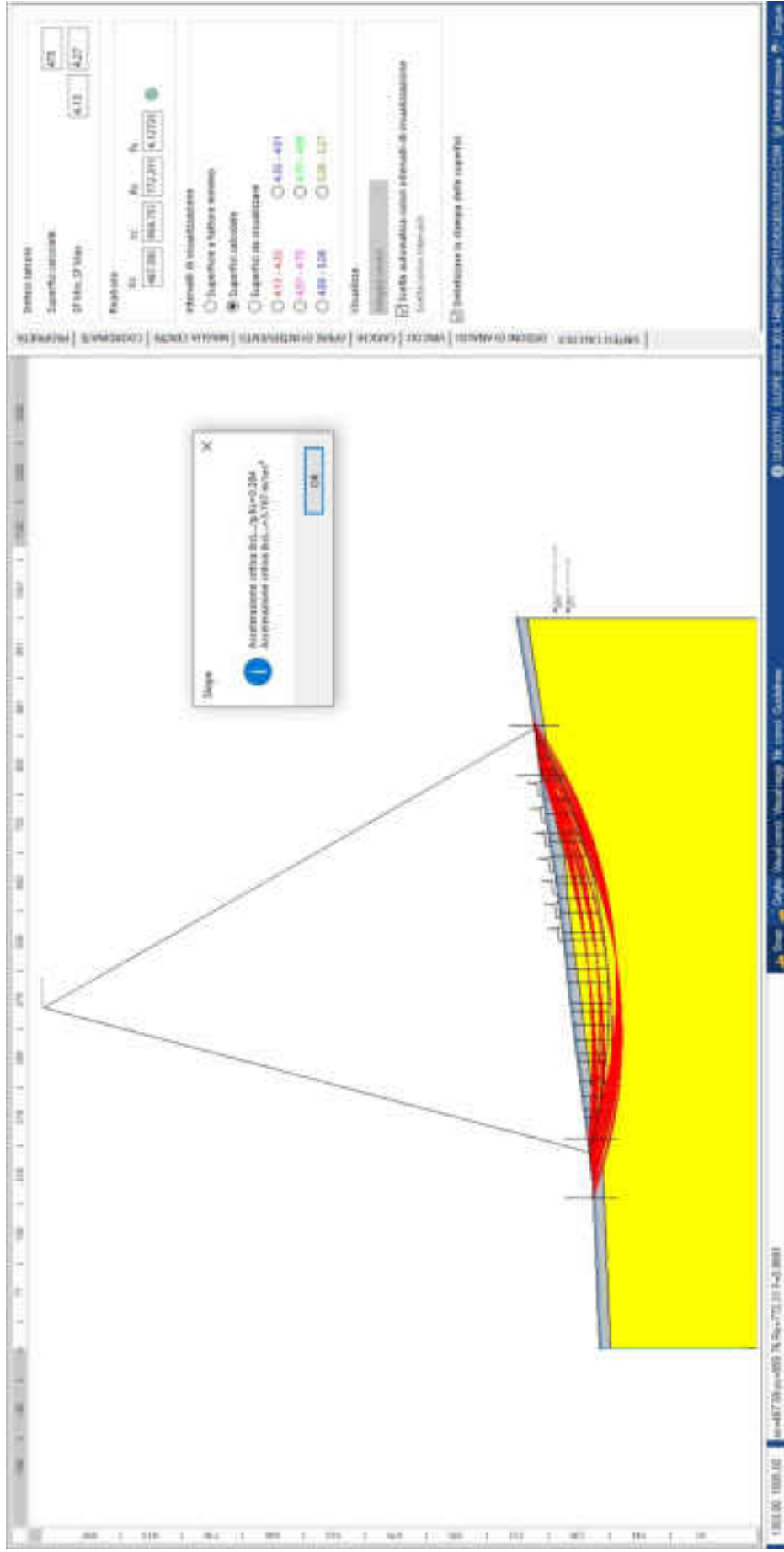
244	458.1	811.5	639.5	4.18
245	364.2	1591.4	1385.6	4.20
246	415.2	1185.5	989.4	4.15
247	462.1	812.0	639.5	4.17
248	368.2	1590.7	1384.5	4.18
249	419.1	1185.4	989.0	4.15
250	466.0	812.5	639.5	4.17
251	372.2	1590.2	1383.5	4.22
252	470.1	812.6	639.1	4.17
253	376.2	1589.5	1382.4	4.21
254	474.1	812.7	638.8	4.17
255	380.1	1589.8	1382.2	4.20
256	478.0	813.3	638.9	4.17
257	332.4	1594.3	1392.1	4.27
258	383.4	1184.9	992.5	4.23
259	430.1	809.3	640.5	4.22
260	336.4	1593.8	1391.2	4.25
261	434.1	810.0	640.7	4.22
262	340.4	1593.2	1390.1	4.23
263	419.7	957.4	775.5	4.19
264	438.1	810.1	640.3	4.21
265	344.4	1592.8	1389.3	4.22
266	395.3	1184.9	991.2	4.20
267	423.7	957.6	775.2	4.18
268	348.3	1592.7	1388.7	4.23
269	399.2	1185.3	991.1	4.20
270	427.7	957.9	775.1	4.18
271	446.1	810.7	640.0	4.18
272	352.3	1592.1	1387.7	4.23
273	450.1	811.0	639.9	4.19
274	356.3	1591.7	1386.8	4.24
275	407.2	1185.2	990.0	4.18
276	454.1	811.3	639.7	4.18
277	360.3	1591.1	1385.8	4.24
278	411.2	1185.2	989.6	4.17
279	458.1	811.5	639.5	4.18
280	364.2	1591.4	1385.6	4.20
281	415.2	1185.5	989.4	4.15
282	462.1	812.0	639.5	4.17
283	368.2	1590.7	1384.5	4.18
284	419.1	1185.4	989.0	4.15
285	466.0	812.5	639.5	4.17
286	372.2	1590.2	1383.5	4.22
287	470.1	812.6	639.1	4.17
288	376.2	1589.5	1382.4	4.21
289	474.1	812.7	638.8	4.17
290	380.1	1589.8	1382.2	4.20
291	478.0	813.3	638.9	4.17
292	384.1	1589.2	1381.2	4.19

293	435.0	1185.8	987.4	4.17
294	482.1	813.4	638.6	4.17
295	332.4	1594.3	1392.1	4.27
296	383.4	1184.9	992.5	4.23
297	430.1	809.3	640.5	4.22
298	336.4	1593.8	1391.2	4.25
299	434.1	810.0	640.7	4.22
300	340.4	1593.2	1390.1	4.23
301	419.7	957.4	775.5	4.19
302	438.1	810.1	640.3	4.21
303	344.4	1592.8	1389.3	4.22
304	395.3	1184.9	991.2	4.20
305	423.7	957.6	775.2	4.18
306	348.3	1592.7	1388.7	4.23
307	399.2	1185.3	991.1	4.20
308	427.7	957.9	775.1	4.18
309	446.1	810.7	640.0	4.18
310	352.3	1592.1	1387.7	4.23
311	450.1	811.0	639.9	4.19
312	356.3	1591.7	1386.8	4.24
313	407.2	1185.2	990.0	4.18
314	454.1	811.3	639.7	4.18
315	360.3	1591.1	1385.8	4.24
316	411.2	1185.2	989.6	4.17
317	458.1	811.5	639.5	4.18
318	364.2	1591.4	1385.6	4.20
319	415.2	1185.5	989.4	4.15
320	462.1	812.0	639.5	4.17
321	368.2	1590.7	1384.5	4.18
322	419.1	1185.4	989.0	4.15
323	466.0	812.5	639.5	4.17
324	372.2	1590.2	1383.5	4.22
325	470.1	812.6	639.1	4.17
326	376.2	1589.5	1382.4	4.21
327	474.1	812.7	638.8	4.17
328	380.1	1589.8	1382.2	4.20
329	478.0	813.3	638.9	4.17
330	384.1	1589.2	1381.2	4.19
331	435.0	1185.8	987.4	4.17
332	482.1	813.4	638.6	4.17
333	388.1	1588.6	1380.1	4.18
334	439.1	1185.4	986.7	4.18
335	467.6	959.8	772.3	4.13
336	486.1	813.7	638.4	4.17
337	332.4	1594.3	1392.1	4.27
338	383.4	1184.9	992.5	4.23
339	430.1	809.3	640.5	4.22
340	336.4	1593.8	1391.2	4.25
341	434.1	810.0	640.7	4.22

342	340.4	1593.2	1390.1	4.23
343	419.7	957.4	775.5	4.19
344	438.1	810.1	640.3	4.21
345	344.4	1592.8	1389.3	4.22
346	395.3	1184.9	991.2	4.20
347	423.7	957.6	775.2	4.18
348	348.3	1592.7	1388.7	4.23
349	399.2	1185.3	991.1	4.20
350	427.7	957.9	775.1	4.18
351	446.1	810.7	640.0	4.18
352	352.3	1592.1	1387.7	4.23
353	450.1	811.0	639.9	4.19
354	356.3	1591.7	1386.8	4.24
355	407.2	1185.2	990.0	4.18
356	454.1	811.3	639.7	4.18
357	360.3	1591.1	1385.8	4.24
358	411.2	1185.2	989.6	4.17
359	458.1	811.5	639.5	4.18
360	364.2	1591.4	1385.6	4.20
361	415.2	1185.5	989.4	4.15
362	462.1	812.0	639.5	4.17
363	368.2	1590.7	1384.5	4.18
364	419.1	1185.4	989.0	4.15
365	466.0	812.5	639.5	4.17
366	372.2	1590.2	1383.5	4.22
367	470.1	812.6	639.1	4.17
368	376.2	1589.5	1382.4	4.21
369	474.1	812.7	638.8	4.17
370	380.1	1589.8	1382.2	4.20
371	478.0	813.3	638.9	4.17
372	384.1	1589.2	1381.2	4.19
373	435.0	1185.8	987.4	4.17
374	482.1	813.4	638.6	4.17
375	388.1	1588.6	1380.1	4.18
376	439.1	1185.4	986.7	4.18
377	467.6	959.8	772.3	4.13
378	486.1	813.7	638.4	4.17
379	392.1	1588.3	1379.4	4.21
380	490.1	814.0	638.3	4.19
381	332.4	1594.3	1392.1	4.27
382	383.4	1184.9	992.5	4.23
383	430.1	809.3	640.5	4.22
384	336.4	1593.8	1391.2	4.25
385	434.1	810.0	640.7	4.22
386	340.4	1593.2	1390.1	4.23
387	419.7	957.4	775.5	4.19
388	438.1	810.1	640.3	4.21
389	344.4	1592.8	1389.3	4.22
390	395.3	1184.9	991.2	4.20

391	423.7	957.6	775.2	4.18
392	348.3	1592.7	1388.7	4.23
393	399.2	1185.3	991.1	4.20
394	427.7	957.9	775.1	4.18
395	446.1	810.7	640.0	4.18
396	352.3	1592.1	1387.7	4.23
397	450.1	811.0	639.9	4.19
398	356.3	1591.7	1386.8	4.24
399	407.2	1185.2	990.0	4.18
400	454.1	811.3	639.7	4.18
401	360.3	1591.1	1385.8	4.24
402	411.2	1185.2	989.6	4.17
403	458.1	811.5	639.5	4.18
404	364.2	1591.4	1385.6	4.20
405	415.2	1185.5	989.4	4.15
406	462.1	812.0	639.5	4.17
407	368.2	1590.7	1384.5	4.18
408	419.1	1185.4	989.0	4.15
409	466.0	812.5	639.5	4.17
410	372.2	1590.2	1383.5	4.22
411	470.1	812.6	639.1	4.17
412	376.2	1589.5	1382.4	4.21
413	474.1	812.7	638.8	4.17
414	380.1	1589.8	1382.2	4.20
415	478.0	813.3	638.9	4.17
416	384.1	1589.2	1381.2	4.19
417	435.0	1185.8	987.4	4.17
418	482.1	813.4	638.6	4.17
419	388.1	1588.6	1380.1	4.18
420	439.1	1185.4	986.7	4.18
421	467.6	959.8	772.3	4.13
422	486.1	813.7	638.4	4.17
423	392.1	1588.3	1379.4	4.21
424	490.1	814.0	638.3	4.19
425	396.1	1587.9	1378.5	4.21
426	494.0	814.3	638.1	4.16
427	332.4	1594.3	1392.1	4.27
428	383.4	1184.9	992.5	4.23
429	430.1	809.3	640.5	4.22
430	336.4	1593.8	1391.2	4.25
431	434.1	810.0	640.7	4.22
432	340.4	1593.2	1390.1	4.23
433	419.7	957.4	775.5	4.19
434	438.1	810.1	640.3	4.21
435	344.4	1592.8	1389.3	4.22
436	395.3	1184.9	991.2	4.20
437	423.7	957.6	775.2	4.18
438	348.3	1592.7	1388.7	4.23
439	399.2	1185.3	991.1	4.20

440	427.7	957.9	775.1	4.18
441	446.1	810.7	640.0	4.18
442	352.3	1592.1	1387.7	4.23
443	450.1	811.0	639.9	4.19
444	356.3	1591.7	1386.8	4.24
445	407.2	1185.2	990.0	4.18
446	454.1	811.3	639.7	4.18
447	360.3	1591.1	1385.8	4.24
448	411.2	1185.2	989.6	4.17
449	458.1	811.5	639.5	4.18
450	364.2	1591.4	1385.6	4.20
451	415.2	1185.5	989.4	4.15
452	462.1	812.0	639.5	4.17
453	368.2	1590.7	1384.5	4.18
454	419.1	1185.4	989.0	4.15
455	466.0	812.5	639.5	4.17
456	372.2	1590.2	1383.5	4.22
457	470.1	812.6	639.1	4.17
458	376.2	1589.5	1382.4	4.21
459	474.1	812.7	638.8	4.17
460	380.1	1589.8	1382.2	4.20
461	478.0	813.3	638.9	4.17
462	384.1	1589.2	1381.2	4.19
463	435.0	1185.8	987.4	4.17
464	482.1	813.4	638.6	4.17
465	388.1	1588.6	1380.1	4.18
466	439.1	1185.4	986.7	4.18
467	467.6	959.8	772.3	4.13
468	486.1	813.7	638.4	4.17
469	392.1	1588.3	1379.4	4.21
470	490.1	814.0	638.3	4.19
471	396.1	1587.9	1378.5	4.21
472	494.0	814.3	638.1	4.16
473	400.1	1587.2	1377.3	4.20
474	451.0	1185.7	985.6	4.15
475	498.0	814.7	638.0	4.16



Verifica di stabilità F-14-0287 - Condizioni statiche - Superficie generica

Analisi di stabilità dei pendii con: JANBU (1967)

Calcolo eseguito secondo	Utente
Numero di strati	2.0
Numero dei conci	30.0
Grado di sicurezza ritenuto accettabile	1.0
Coefficiente parziale resistenza	1.0
Analisi	Condizione drenata
Superficie di forma generica	

Vertici profilo

Nr	X (m)	y (m)
1	0.0	0.0
2	0.0	200.0
3	245.74	210.05
4	317.76	220.05
5	394.95	230.05
6	473.39	240.05
7	570.5	250.05
8	647.21	260.05
9	705.97	270.05
10	780.21	280.05
11	857.97	290.05
12	920.92	300.05
13	1001.72	313.76

Falda

Nr.	X (m)	y (m)
1	0.0	0.0
2	0.0	197.0
3	245.74	207.05
4	317.76	217.05
5	394.95	227.05
6	473.39	237.05
7	570.5	247.05
8	647.21	257.05
9	705.97	267.05
10	780.21	277.05
11	857.97	287.05
12	920.92	297.05
13	1001.72	310.76

Vertici strato1

N	X (m)	y (m)
1	0.0	0.0

2	0.0	185.0
3	244.72	195.01
4	337.22	207.77
5	342.09	208.74
6	497.22	227.63
7	507.8	229.5
8	624.72	244.12
9	671.72	246.92
10	723.72	259.44
11	851.19	275.67
12	1001.72	298.76

Vertici superficie Nr...1

N	X m	y m
1	245.71	210.14
2	300.54	202.53
3	356.14	210.83
4	497.25	228.48
5	624.75	244.33
6	671.85	247.52
7	723.72	259.77
8	749.81	275.99

Coefficienti parziali azioni

Sfavorevoli: Permanenti, variabili	1.0	1.0
Favorevoli: Permanenti, variabili	1.0	1.0

Coefficienti parziali per i parametri geotecnici del terreno

Tangente angolo di resistenza al taglio	1.25
Coazione efficace	1.25
Coazione non drenata	1.4
Riduzione parametri geotecnici terreno	No

Stratigrafia

Strato	Coazione (kg/cm ²)	Coazione non drenata (kg/cm ²)	Angolo resistenza al taglio (°)	Peso unità di volume (Kg/m ³)	Peso saturo (Kg/m ³)	Litologia	
1	0,11	0	25,8	1980	2180	SUBSTRAT O GEOLOGIC O ALTERATO E DECOMPR ESSO - Argilla	

						limoso-marnosa con sabbia	
2	0,35	0	26	2100	2300	SUBSTRATO GEOLOGICO - Argilla marnosa con intercalazioni sabbiose	

G0: Modulo di taglio dinamico a basse deformazioni; G: Modulo di taglio dinamico; Dr: Densità relativa; OCR: Grado di sovraconsolidazione; IP: Indice di plasticità

Strato	G0 (KPa)	G (KPa)	Dr (%)	OCR	IP (%)
1	18000	13500	0	1	36.1
2	288800	216600	0	4	34.4

Carichi distribuiti

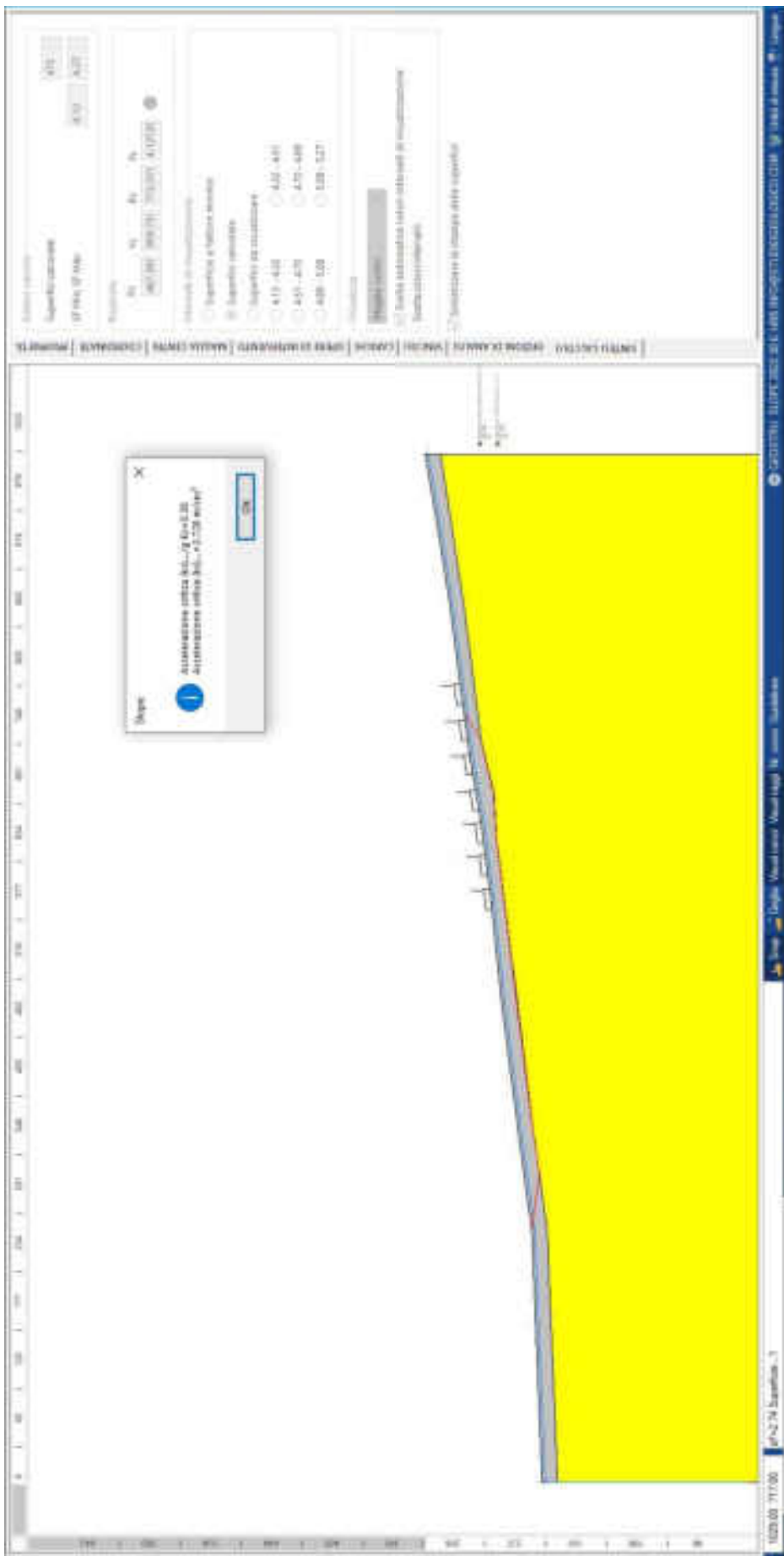
N°	xi (m)	yi (m)	xf (m)	yf (m)	Carico esterno (kg/cm2)
1	558.31	249	578.31	251.0596	0.2
2	591.46	252.85	611.46	255.4571	0.2
3	623.04	256.86	643.04	259.4671	0.2
4	654.34	261.23	674.34	264.6339	0.2
5	689.35	267.15	709.35	270.5539	0.2
6	723.03	272.4	743.03	275.0938	0.2
7	757.85	277.07	777.85	279.7638	0.2

B: Larghezza del concio; Alfa: Angolo di inclinazione della base del concio; Li: Lunghezza della base del concio; Wi: Peso del concio; Ui: Forze derivanti dalle pressioni neutre; Ni: forze agenti normalmente alla direzione di scivolamento; Ti: forze agenti parallelamente alla superficie di scivolamento; Fi: Angolo di attrito; c: coesione.

Superficie Nr...1 Fattore di sicurezza=2.74

Nr.	B (m)	Alfa (°)	Li (m)	Wi (Kg)	Kh•Wi (Kg)	Kv•Wi (Kg)	c (kg/cm2)	Fi (°)	Ui (Kg)	N'i (Kg)	Ti (Kg)
1	16.79	-7.9	17.077487.25	0.0	0.0	0.11	25.8	0.081160.7	21306.7		
2	16.79	-7.9	16.9245846.9	0.0	0.0	0.11	25.866961.2186098.139980.8				
3	16.79	-7.9	17.0416586.5	0.0	0.0	0.11	25.8145365.9281690.856995.1				
4	16.79	4.5	16.8520308.7	0.0	0.0	0.11	25.8192846.9323437.563965.3				
5	16.79	8.5	17.0534186.1	0.0	0.0	0.11	25.8199271.1328956.765508.3				
6	16.79	8.5	17.0522194.3	0.0	0.0	0.11	25.8193867.5322466.264351.6				
7	16.79	7.9	16.9513435.7	0.0	0.0	0.11	25.8189765.3318054.763459.7				
8	16.79	7.1	16.9512134.6	0.0	0.0	0.11	25.8189265.8317537.663245.2				
9	16.79	7.1	16.9514936.8	0.0	0.0	0.11	25.8190466.5319116.763525.7				
10	16.79	7.2	16.9516742.6	0.0	0.0	0.11	25.8191339.3320020.863692.5				
11	16.79	7.1	16.9518045.8	0.0	0.0	0.11	25.8191839.6320828.463829.8				

12	16.79	7.1	16.9519607.9	0.0	0.0	0.11	25.8192640.1321579.463963.2
13	16.79	7.1	16.9521129.6	0.0	0.0	0.11	25.8193240.6322487.764124.5
14	16.79	7.1	16.9522691.6	0.0	0.0	0.11	25.8194041.2323238.664257.9
15	16.79	7.2	16.9509523.1	0.0	0.0	0.11	25.8187897.8316293.963031.1
16	16.79	7.1	16.9495987.7	0.0	0.0	0.11	25.8181682.1309109.361742.1
17	16.79	7.1	16.9482953.0	0.0	0.0	0.11	25.8175878.1301979.360475.6
18	16.79	7.1	16.9469877.8	0.0	0.0	0.11	25.8169873.8295006.659237.1
19	16.79	7.1	16.9470295.9	0.0	0.0	0.11	25.8163869.7301339.660362.0
20	16.79	7.1	16.9473198.0	0.0	0.0	0.11	25.8159238.5308768.161681.5
21	16.79	7.1	16.9464761.6	0.0	0.0	0.11	25.8160839.6298870.259923.4
22	16.79	7.1	16.9479829.4	0.0	0.0	0.11	25.8162641.0311952.062247.0
23	16.79	5.6	16.9484093.8	0.0	0.0	0.35	26.0 0.0475964.0106690.9
24	16.79	3.9	16.8516230.7	0.0	0.0	0.11	25.8181139.8331426.465319.7
25	16.79	3.9	16.8570766.3	0.0	0.0	0.11	25.8205628.9361217.070579.2
26	16.79	9.9	17.0594903.6	0.0	0.0	0.11	25.8219234.6368802.472940.6
27	16.79	13.3	17.3575893.3	0.0	0.0	0.11	25.8209223.4360134.672339.9
28	16.79	13.3	17.3532799.9	0.0	0.0	0.11	25.8189581.4337000.868149.8
29	16.79	24.1	18.4405187.9	0.0	0.0	0.11	25.8130979.9275401.561271.7
30	16.79	31.9	19.8159725.2	0.0	0.0	0.11	25.818284.0145655.939567.6



Verifica di stabilità F-14-0287 - Condizioni pseudostatiche - Superfici circolari

Analisi di stabilità dei pendii con: JANBU (1967)

Calcolo eseguito secondo	Utente
Numero di strati	2.0
Numero dei conci	30.0
Grado di sicurezza ritenuto accettabile	1.0
Coefficiente parziale resistenza	1.0
Analisi	Condizione drenata
Superficie di forma circolare	

Maglia dei Centri

Ascissa vertice sinistro inferiore xi	307.73 m
Ordinata vertice sinistro inferiore yi	467.54 m
Ascissa vertice destro superiore xs	764.63 m
Ordinata vertice destro superiore ys	838.2 m
Passo di ricerca	10.0
Numero di celle lungo x	10.0
Numero di celle lungo y	10.0

Sisma

Coefficiente azione sismica orizzontale	0.017
Coefficiente azione sismica verticale	0.008

Vertici profilo

Nr	X (m)	y (m)
1	0.0	0.0
2	0.0	200.0
3	245.74	210.05
4	317.76	220.05
5	394.95	230.05
6	473.39	240.05
7	570.5	250.05
8	647.21	260.05
9	705.97	270.05
10	780.21	280.05
11	857.97	290.05
12	920.92	300.05
13	1001.72	313.76

Falda

Nr.	X (m)	y (m)
1	0.0	0.0
2	0.0	197.0
3	245.74	207.05
4	317.76	217.05
5	394.95	227.05
6	473.39	237.05
7	570.5	247.05
8	647.21	257.05
9	705.97	267.05
10	780.21	277.05
11	857.97	287.05
12	920.92	297.05
13	1001.72	310.76

Vertici strato1

N	X (m)	y (m)
1	0.0	0.0
2	0.0	185.0
3	244.72	195.01
4	337.22	207.77
5	342.09	208.74
6	497.22	227.63
7	507.8	229.5
8	624.72	244.12
9	671.72	246.92
10	723.72	259.44
11	851.19	275.67
12	1001.72	298.76

Coefficienti parziali azioni

Sfavorevoli: Permanenti, variabili	1.0	1.0
Favorevoli: Permanenti, variabili	1.0	1.0

Coefficienti parziali per i parametri geotecnici del terreno

Tangente angolo di resistenza al taglio	1.25
Coesione efficace	1.25
Coesione non drenata	1.4
Riduzione parametri geotecnici terreno	No

Stratigrafia

Strato	Coesione	Coesione	Angolo	Peso unità	Peso saturo	Litologia
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	(kg/cm ²)	non drenata (kg/cm ²)	resistenza al taglio (°)	di volume (Kg/m ³)	(Kg/m ³)		
1	0,11	0	25,8	1980	2180	SUBSTRATO GEOLOGICO ALTERATO E DECOMPRRESSO - Argilla limoso-marnosa con sabbia	
2	0,35	0	26	2100	2300	SUBSTRATO GEOLOGICO - Argilla marnosa con intercalazioni sabbiose	

G0: Modulo di taglio dinamico a basse deformazioni; G: Modulo di taglio dinamico; Dr: Densità relativa; OCR: Grado di sovraconsolidazione; IP: Indice di plasticità

Strato	G0 (KPa)	G (KPa)	Dr (%)	OCR	IP (%)
1	18000	13500	0	1	36.1
2	288800	216600	0	4	34.4

Carichi distribuiti

N°	xi (m)	yi (m)	xf (m)	yf (m)	Carico esterno (kg/cm ²)
1	558.31	249	578.31	251.0596	0.2
2	591.46	252.85	611.46	255.4571	0.2
3	623.04	256.86	643.04	259.4671	0.2
4	654.34	261.23	674.34	264.6339	0.2
5	689.35	267.15	709.35	270.5539	0.2
6	723.03	272.4	743.03	275.0938	0.2
7	757.85	277.07	777.85	279.7638	0.2

Risultati analisi pendio [RSL 1D]

Fs minimo individuato
Ascissa centro superficie

3.62
467.59 m

Ordinata centro superficie
Raggio superficie

959.76 m
772.31 m

Numero di superfici esaminate....(475)

N°	Xo	Yo	Ro	Fs
1	332.4	1594.3	1392.1	3.73
2	383.4	1184.9	992.5	3.70
3	430.1	809.3	640.5	3.70
4	332.4	1594.3	1392.1	3.73
5	383.4	1184.9	992.5	3.70
6	430.1	809.3	640.5	3.70
7	336.4	1593.8	1391.2	3.72
8	434.1	810.0	640.7	3.70
9	332.4	1594.3	1392.1	3.73
10	383.4	1184.9	992.5	3.70
11	430.1	809.3	640.5	3.70
12	336.4	1593.8	1391.2	3.72
13	434.1	810.0	640.7	3.70
14	340.4	1593.2	1390.1	3.70
15	419.7	957.4	775.5	3.66
16	438.1	810.1	640.3	3.68
17	332.4	1594.3	1392.1	3.73
18	383.4	1184.9	992.5	3.70
19	430.1	809.3	640.5	3.70
20	336.4	1593.8	1391.2	3.72
21	434.1	810.0	640.7	3.70
22	340.4	1593.2	1390.1	3.70
23	419.7	957.4	775.5	3.66
24	438.1	810.1	640.3	3.68
25	344.4	1592.8	1389.3	3.70
26	395.3	1184.9	991.2	3.68
27	423.7	957.6	775.2	3.66
28	332.4	1594.3	1392.1	3.73
29	383.4	1184.9	992.5	3.70
30	430.1	809.3	640.5	3.70
31	336.4	1593.8	1391.2	3.72
32	434.1	810.0	640.7	3.70
33	340.4	1593.2	1390.1	3.70
34	419.7	957.4	775.5	3.66
35	438.1	810.1	640.3	3.68
36	344.4	1592.8	1389.3	3.70
37	395.3	1184.9	991.2	3.68
38	423.7	957.6	775.2	3.66
39	348.3	1592.7	1388.7	3.70
40	399.2	1185.3	991.1	3.68
41	427.7	957.9	775.1	3.66

42	446.1	810.7	640.0	3.66
43	332.4	1594.3	1392.1	3.73
44	383.4	1184.9	992.5	3.70
45	430.1	809.3	640.5	3.70
46	336.4	1593.8	1391.2	3.72
47	434.1	810.0	640.7	3.70
48	340.4	1593.2	1390.1	3.70
49	419.7	957.4	775.5	3.66
50	438.1	810.1	640.3	3.68
51	344.4	1592.8	1389.3	3.70
52	395.3	1184.9	991.2	3.68
53	423.7	957.6	775.2	3.66
54	348.3	1592.7	1388.7	3.70
55	399.2	1185.3	991.1	3.68
56	427.7	957.9	775.1	3.66
57	446.1	810.7	640.0	3.66
58	352.3	1592.1	1387.7	3.71
59	450.1	811.0	639.9	3.67
60	332.4	1594.3	1392.1	3.73
61	383.4	1184.9	992.5	3.70
62	430.1	809.3	640.5	3.70
63	336.4	1593.8	1391.2	3.72
64	434.1	810.0	640.7	3.70
65	340.4	1593.2	1390.1	3.70
66	419.7	957.4	775.5	3.66
67	438.1	810.1	640.3	3.68
68	344.4	1592.8	1389.3	3.70
69	395.3	1184.9	991.2	3.68
70	423.7	957.6	775.2	3.66
71	348.3	1592.7	1388.7	3.70
72	399.2	1185.3	991.1	3.68
73	427.7	957.9	775.1	3.66
74	446.1	810.7	640.0	3.66
75	352.3	1592.1	1387.7	3.71
76	450.1	811.0	639.9	3.67
77	356.3	1591.7	1386.8	3.71
78	407.2	1185.2	990.0	3.66
79	454.1	811.3	639.7	3.66
80	332.4	1594.3	1392.1	3.73
81	383.4	1184.9	992.5	3.70
82	430.1	809.3	640.5	3.70
83	336.4	1593.8	1391.2	3.72
84	434.1	810.0	640.7	3.70
85	340.4	1593.2	1390.1	3.70
86	419.7	957.4	775.5	3.66
87	438.1	810.1	640.3	3.68
88	344.4	1592.8	1389.3	3.70
89	395.3	1184.9	991.2	3.68
90	423.7	957.6	775.2	3.66

91	348.3	1592.7	1388.7	3.70
92	399.2	1185.3	991.1	3.68
93	427.7	957.9	775.1	3.66
94	446.1	810.7	640.0	3.66
95	352.3	1592.1	1387.7	3.71
96	450.1	811.0	639.9	3.67
97	356.3	1591.7	1386.8	3.71
98	407.2	1185.2	990.0	3.66
99	454.1	811.3	639.7	3.66
100	360.3	1591.1	1385.8	3.71
101	411.2	1185.2	989.6	3.65
102	458.1	811.5	639.5	3.66
103	332.4	1594.3	1392.1	3.73
104	383.4	1184.9	992.5	3.70
105	430.1	809.3	640.5	3.70
106	336.4	1593.8	1391.2	3.72
107	434.1	810.0	640.7	3.70
108	340.4	1593.2	1390.1	3.70
109	419.7	957.4	775.5	3.66
110	438.1	810.1	640.3	3.68
111	344.4	1592.8	1389.3	3.70
112	395.3	1184.9	991.2	3.68
113	423.7	957.6	775.2	3.66
114	348.3	1592.7	1388.7	3.70
115	399.2	1185.3	991.1	3.68
116	427.7	957.9	775.1	3.66
117	446.1	810.7	640.0	3.66
118	352.3	1592.1	1387.7	3.71
119	450.1	811.0	639.9	3.67
120	356.3	1591.7	1386.8	3.71
121	407.2	1185.2	990.0	3.66
122	454.1	811.3	639.7	3.66
123	360.3	1591.1	1385.8	3.71
124	411.2	1185.2	989.6	3.65
125	458.1	811.5	639.5	3.66
126	364.2	1591.4	1385.6	3.68
127	415.2	1185.5	989.4	3.64
128	462.1	812.0	639.5	3.66
129	332.4	1594.3	1392.1	3.73
130	383.4	1184.9	992.5	3.70
131	430.1	809.3	640.5	3.70
132	336.4	1593.8	1391.2	3.72
133	434.1	810.0	640.7	3.70
134	340.4	1593.2	1390.1	3.70
135	419.7	957.4	775.5	3.66
136	438.1	810.1	640.3	3.68
137	344.4	1592.8	1389.3	3.70
138	395.3	1184.9	991.2	3.68
139	423.7	957.6	775.2	3.66

140	348.3	1592.7	1388.7	3.70
141	399.2	1185.3	991.1	3.68
142	427.7	957.9	775.1	3.66
143	446.1	810.7	640.0	3.66
144	352.3	1592.1	1387.7	3.71
145	450.1	811.0	639.9	3.67
146	356.3	1591.7	1386.8	3.71
147	407.2	1185.2	990.0	3.66
148	454.1	811.3	639.7	3.66
149	360.3	1591.1	1385.8	3.71
150	411.2	1185.2	989.6	3.65
151	458.1	811.5	639.5	3.66
152	364.2	1591.4	1385.6	3.68
153	415.2	1185.5	989.4	3.64
154	462.1	812.0	639.5	3.66
155	368.2	1590.7	1384.5	3.66
156	419.1	1185.4	989.0	3.64
157	466.0	812.5	639.5	3.66
158	332.4	1594.3	1392.1	3.73
159	383.4	1184.9	992.5	3.70
160	430.1	809.3	640.5	3.70
161	336.4	1593.8	1391.2	3.72
162	434.1	810.0	640.7	3.70
163	340.4	1593.2	1390.1	3.70
164	419.7	957.4	775.5	3.66
165	438.1	810.1	640.3	3.68
166	344.4	1592.8	1389.3	3.70
167	395.3	1184.9	991.2	3.68
168	423.7	957.6	775.2	3.66
169	348.3	1592.7	1388.7	3.70
170	399.2	1185.3	991.1	3.68
171	427.7	957.9	775.1	3.66
172	446.1	810.7	640.0	3.66
173	352.3	1592.1	1387.7	3.71
174	450.1	811.0	639.9	3.67
175	356.3	1591.7	1386.8	3.71
176	407.2	1185.2	990.0	3.66
177	454.1	811.3	639.7	3.66
178	360.3	1591.1	1385.8	3.71
179	411.2	1185.2	989.6	3.65
180	458.1	811.5	639.5	3.66
181	364.2	1591.4	1385.6	3.68
182	415.2	1185.5	989.4	3.64
183	462.1	812.0	639.5	3.66
184	368.2	1590.7	1384.5	3.66
185	419.1	1185.4	989.0	3.64
186	466.0	812.5	639.5	3.66
187	372.2	1590.2	1383.5	3.70
188	470.1	812.6	639.1	3.66

189	332.4	1594.3	1392.1	3.73
190	383.4	1184.9	992.5	3.70
191	430.1	809.3	640.5	3.70
192	336.4	1593.8	1391.2	3.72
193	434.1	810.0	640.7	3.70
194	340.4	1593.2	1390.1	3.70
195	419.7	957.4	775.5	3.66
196	438.1	810.1	640.3	3.68
197	344.4	1592.8	1389.3	3.70
198	395.3	1184.9	991.2	3.68
199	423.7	957.6	775.2	3.66
200	348.3	1592.7	1388.7	3.70
201	399.2	1185.3	991.1	3.68
202	427.7	957.9	775.1	3.66
203	446.1	810.7	640.0	3.66
204	352.3	1592.1	1387.7	3.71
205	450.1	811.0	639.9	3.67
206	356.3	1591.7	1386.8	3.71
207	407.2	1185.2	990.0	3.66
208	454.1	811.3	639.7	3.66
209	360.3	1591.1	1385.8	3.71
210	411.2	1185.2	989.6	3.65
211	458.1	811.5	639.5	3.66
212	364.2	1591.4	1385.6	3.68
213	415.2	1185.5	989.4	3.64
214	462.1	812.0	639.5	3.66
215	368.2	1590.7	1384.5	3.66
216	419.1	1185.4	989.0	3.64
217	466.0	812.5	639.5	3.66
218	372.2	1590.2	1383.5	3.70
219	470.1	812.6	639.1	3.66
220	376.2	1589.5	1382.4	3.69
221	474.1	812.7	638.8	3.65
222	332.4	1594.3	1392.1	3.73
223	383.4	1184.9	992.5	3.70
224	430.1	809.3	640.5	3.70
225	336.4	1593.8	1391.2	3.72
226	434.1	810.0	640.7	3.70
227	340.4	1593.2	1390.1	3.70
228	419.7	957.4	775.5	3.66
229	438.1	810.1	640.3	3.68
230	344.4	1592.8	1389.3	3.70
231	395.3	1184.9	991.2	3.68
232	423.7	957.6	775.2	3.66
233	348.3	1592.7	1388.7	3.70
234	399.2	1185.3	991.1	3.68
235	427.7	957.9	775.1	3.66
236	446.1	810.7	640.0	3.66
237	352.3	1592.1	1387.7	3.71

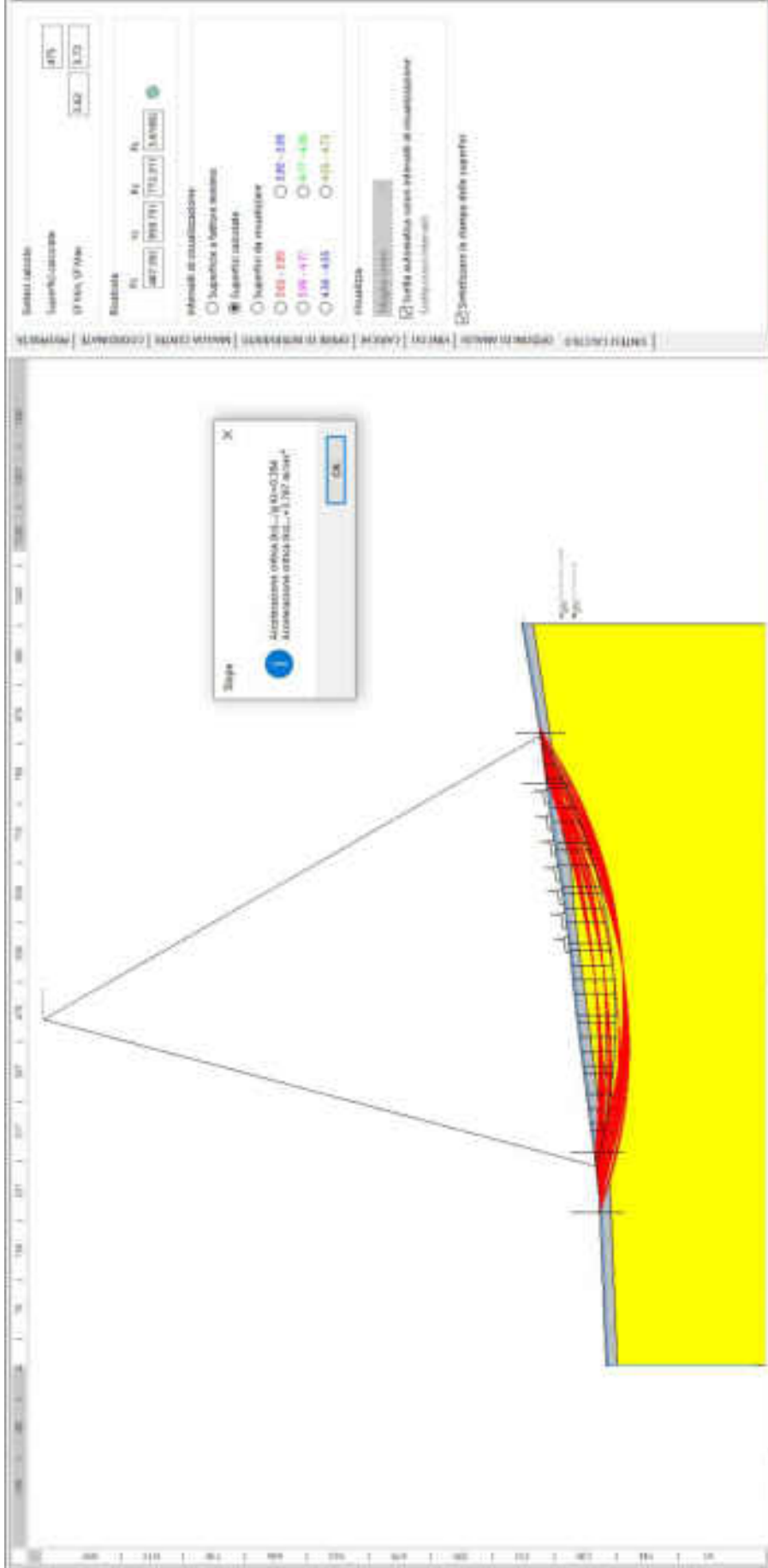
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239	356.3	1591.7	1386.8	3.71
240	407.2	1185.2	990.0	3.66
241	454.1	811.3	639.7	3.66
242	360.3	1591.1	1385.8	3.71
243	411.2	1185.2	989.6	3.65
244	458.1	811.5	639.5	3.66
245	364.2	1591.4	1385.6	3.68
246	415.2	1185.5	989.4	3.64
247	462.1	812.0	639.5	3.66
248	368.2	1590.7	1384.5	3.66
249	419.1	1185.4	989.0	3.64
250	466.0	812.5	639.5	3.66
251	372.2	1590.2	1383.5	3.70
252	470.1	812.6	639.1	3.66
253	376.2	1589.5	1382.4	3.69
254	474.1	812.7	638.8	3.65
255	380.1	1589.8	1382.2	3.68
256	478.0	813.3	638.9	3.65
257	332.4	1594.3	1392.1	3.73
258	383.4	1184.9	992.5	3.70
259	430.1	809.3	640.5	3.70
260	336.4	1593.8	1391.2	3.72
261	434.1	810.0	640.7	3.70
262	340.4	1593.2	1390.1	3.70
263	419.7	957.4	775.5	3.66
264	438.1	810.1	640.3	3.68
265	344.4	1592.8	1389.3	3.70
266	395.3	1184.9	991.2	3.68
267	423.7	957.6	775.2	3.66
268	348.3	1592.7	1388.7	3.70
269	399.2	1185.3	991.1	3.68
270	427.7	957.9	775.1	3.66
271	446.1	810.7	640.0	3.66
272	352.3	1592.1	1387.7	3.71
273	450.1	811.0	639.9	3.67
274	356.3	1591.7	1386.8	3.71
275	407.2	1185.2	990.0	3.66
276	454.1	811.3	639.7	3.66
277	360.3	1591.1	1385.8	3.71
278	411.2	1185.2	989.6	3.65
279	458.1	811.5	639.5	3.66
280	364.2	1591.4	1385.6	3.68
281	415.2	1185.5	989.4	3.64
282	462.1	812.0	639.5	3.66
283	368.2	1590.7	1384.5	3.66
284	419.1	1185.4	989.0	3.64
285	466.0	812.5	639.5	3.66
286	372.2	1590.2	1383.5	3.70

287	470.1	812.6	639.1	3.66
288	376.2	1589.5	1382.4	3.69
289	474.1	812.7	638.8	3.65
290	380.1	1589.8	1382.2	3.68
291	478.0	813.3	638.9	3.65
292	384.1	1589.2	1381.2	3.67
293	435.0	1185.8	987.4	3.65
294	482.1	813.4	638.6	3.65
295	332.4	1594.3	1392.1	3.73
296	383.4	1184.9	992.5	3.70
297	430.1	809.3	640.5	3.70
298	336.4	1593.8	1391.2	3.72
299	434.1	810.0	640.7	3.70
300	340.4	1593.2	1390.1	3.70
301	419.7	957.4	775.5	3.66
302	438.1	810.1	640.3	3.68
303	344.4	1592.8	1389.3	3.70
304	395.3	1184.9	991.2	3.68
305	423.7	957.6	775.2	3.66
306	348.3	1592.7	1388.7	3.70
307	399.2	1185.3	991.1	3.68
308	427.7	957.9	775.1	3.66
309	446.1	810.7	640.0	3.66
310	352.3	1592.1	1387.7	3.71
311	450.1	811.0	639.9	3.67
312	356.3	1591.7	1386.8	3.71
313	407.2	1185.2	990.0	3.66
314	454.1	811.3	639.7	3.66
315	360.3	1591.1	1385.8	3.71
316	411.2	1185.2	989.6	3.65
317	458.1	811.5	639.5	3.66
318	364.2	1591.4	1385.6	3.68
319	415.2	1185.5	989.4	3.64
320	462.1	812.0	639.5	3.66
321	368.2	1590.7	1384.5	3.66
322	419.1	1185.4	989.0	3.64
323	466.0	812.5	639.5	3.66
324	372.2	1590.2	1383.5	3.70
325	470.1	812.6	639.1	3.66
326	376.2	1589.5	1382.4	3.69
327	474.1	812.7	638.8	3.65
328	380.1	1589.8	1382.2	3.68
329	478.0	813.3	638.9	3.65
330	384.1	1589.2	1381.2	3.67
331	435.0	1185.8	987.4	3.65
332	482.1	813.4	638.6	3.65
333	388.1	1588.6	1380.1	3.66
334	439.1	1185.4	986.7	3.66
335	467.6	959.8	772.3	3.62

336	486.1	813.7	638.4	3.65
337	332.4	1594.3	1392.1	3.73
338	383.4	1184.9	992.5	3.70
339	430.1	809.3	640.5	3.70
340	336.4	1593.8	1391.2	3.72
341	434.1	810.0	640.7	3.70
342	340.4	1593.2	1390.1	3.70
343	419.7	957.4	775.5	3.66
344	438.1	810.1	640.3	3.68
345	344.4	1592.8	1389.3	3.70
346	395.3	1184.9	991.2	3.68
347	423.7	957.6	775.2	3.66
348	348.3	1592.7	1388.7	3.70
349	399.2	1185.3	991.1	3.68
350	427.7	957.9	775.1	3.66
351	446.1	810.7	640.0	3.66
352	352.3	1592.1	1387.7	3.71
353	450.1	811.0	639.9	3.67
354	356.3	1591.7	1386.8	3.71
355	407.2	1185.2	990.0	3.66
356	454.1	811.3	639.7	3.66
357	360.3	1591.1	1385.8	3.71
358	411.2	1185.2	989.6	3.65
359	458.1	811.5	639.5	3.66
360	364.2	1591.4	1385.6	3.68
361	415.2	1185.5	989.4	3.64
362	462.1	812.0	639.5	3.66
363	368.2	1590.7	1384.5	3.66
364	419.1	1185.4	989.0	3.64
365	466.0	812.5	639.5	3.66
366	372.2	1590.2	1383.5	3.70
367	470.1	812.6	639.1	3.66
368	376.2	1589.5	1382.4	3.69
369	474.1	812.7	638.8	3.65
370	380.1	1589.8	1382.2	3.68
371	478.0	813.3	638.9	3.65
372	384.1	1589.2	1381.2	3.67
373	435.0	1185.8	987.4	3.65
374	482.1	813.4	638.6	3.65
375	388.1	1588.6	1380.1	3.66
376	439.1	1185.4	986.7	3.66
377	467.6	959.8	772.3	3.62
378	486.1	813.7	638.4	3.65
379	392.1	1588.3	1379.4	3.69
380	490.1	814.0	638.3	3.67
381	332.4	1594.3	1392.1	3.73
382	383.4	1184.9	992.5	3.70
383	430.1	809.3	640.5	3.70
384	336.4	1593.8	1391.2	3.72

385	434.1	810.0	640.7	3.70
386	340.4	1593.2	1390.1	3.70
387	419.7	957.4	775.5	3.66
388	438.1	810.1	640.3	3.68
389	344.4	1592.8	1389.3	3.70
390	395.3	1184.9	991.2	3.68
391	423.7	957.6	775.2	3.66
392	348.3	1592.7	1388.7	3.70
393	399.2	1185.3	991.1	3.68
394	427.7	957.9	775.1	3.66
395	446.1	810.7	640.0	3.66
396	352.3	1592.1	1387.7	3.71
397	450.1	811.0	639.9	3.67
398	356.3	1591.7	1386.8	3.71
399	407.2	1185.2	990.0	3.66
400	454.1	811.3	639.7	3.66
401	360.3	1591.1	1385.8	3.71
402	411.2	1185.2	989.6	3.65
403	458.1	811.5	639.5	3.66
404	364.2	1591.4	1385.6	3.68
405	415.2	1185.5	989.4	3.64
406	462.1	812.0	639.5	3.66
407	368.2	1590.7	1384.5	3.66
408	419.1	1185.4	989.0	3.64
409	466.0	812.5	639.5	3.66
410	372.2	1590.2	1383.5	3.70
411	470.1	812.6	639.1	3.66
412	376.2	1589.5	1382.4	3.69
413	474.1	812.7	638.8	3.65
414	380.1	1589.8	1382.2	3.68
415	478.0	813.3	638.9	3.65
416	384.1	1589.2	1381.2	3.67
417	435.0	1185.8	987.4	3.65
418	482.1	813.4	638.6	3.65
419	388.1	1588.6	1380.1	3.66
420	439.1	1185.4	986.7	3.66
421	467.6	959.8	772.3	3.62
422	486.1	813.7	638.4	3.65
423	392.1	1588.3	1379.4	3.69
424	490.1	814.0	638.3	3.67
425	396.1	1587.9	1378.5	3.69
426	494.0	814.3	638.1	3.65
427	332.4	1594.3	1392.1	3.73
428	383.4	1184.9	992.5	3.70
429	430.1	809.3	640.5	3.70
430	336.4	1593.8	1391.2	3.72
431	434.1	810.0	640.7	3.70
432	340.4	1593.2	1390.1	3.70
433	419.7	957.4	775.5	3.66

434	438.1	810.1	640.3	3.68
435	344.4	1592.8	1389.3	3.70
436	395.3	1184.9	991.2	3.68
437	423.7	957.6	775.2	3.66
438	348.3	1592.7	1388.7	3.70
439	399.2	1185.3	991.1	3.68
440	427.7	957.9	775.1	3.66
441	446.1	810.7	640.0	3.66
442	352.3	1592.1	1387.7	3.71
443	450.1	811.0	639.9	3.67
444	356.3	1591.7	1386.8	3.71
445	407.2	1185.2	990.0	3.66
446	454.1	811.3	639.7	3.66
447	360.3	1591.1	1385.8	3.71
448	411.2	1185.2	989.6	3.65
449	458.1	811.5	639.5	3.66
450	364.2	1591.4	1385.6	3.68
451	415.2	1185.5	989.4	3.64
452	462.1	812.0	639.5	3.66
453	368.2	1590.7	1384.5	3.66
454	419.1	1185.4	989.0	3.64
455	466.0	812.5	639.5	3.66
456	372.2	1590.2	1383.5	3.70
457	470.1	812.6	639.1	3.66
458	376.2	1589.5	1382.4	3.69
459	474.1	812.7	638.8	3.65
460	380.1	1589.8	1382.2	3.68
461	478.0	813.3	638.9	3.65
462	384.1	1589.2	1381.2	3.67
463	435.0	1185.8	987.4	3.65
464	482.1	813.4	638.6	3.65
465	388.1	1588.6	1380.1	3.66
466	439.1	1185.4	986.7	3.66
467	467.6	959.8	772.3	3.62
468	486.1	813.7	638.4	3.65
469	392.1	1588.3	1379.4	3.69
470	490.1	814.0	638.3	3.67
471	396.1	1587.9	1378.5	3.69
472	494.0	814.3	638.1	3.65
473	400.1	1587.2	1377.3	3.68
474	451.0	1185.7	985.6	3.64
475	498.0	814.7	638.0	3.65



Verifica di stabilità F-14-0287 - Condizioni pseudostatiche - Superficie generica

Analisi di stabilità dei pendii con: JANBU (1967)

Calcolo eseguito secondo	Utente
Numero di strati	2.0
Numero dei conci	30.0
Grado di sicurezza ritenuto accettabile	1.0
Coefficiente parziale resistenza	1.0
Analisi	Condizione drenata
Superficie di forma generica	

Sisma

Coefficiente azione sismica orizzontale	0.017
Coefficiente azione sismica verticale	0.008

Vertici profilo

Nr	X (m)	y (m)
1	0.0	0.0
2	0.0	200.0
3	245.74	210.05
4	317.76	220.05
5	394.95	230.05
6	473.39	240.05
7	570.5	250.05
8	647.21	260.05
9	705.97	270.05
10	780.21	280.05
11	857.97	290.05
12	920.92	300.05
13	1001.72	313.76

Falda

Nr.	X (m)	y (m)
1	0.0	0.0
2	0.0	197.0
3	245.74	207.05
4	317.76	217.05
5	394.95	227.05
6	473.39	237.05
7	570.5	247.05
8	647.21	257.05
9	705.97	267.05
10	780.21	277.05
11	857.97	287.05

12	920.92	297.05
13	1001.72	310.76

Vertici strato1

N	X (m)	y (m)
1	0.0	0.0
2	0.0	185.0
3	244.72	195.01
4	337.22	207.77
5	342.09	208.74
6	497.22	227.63
7	507.8	229.5
8	624.72	244.12
9	671.72	246.92
10	723.72	259.44
11	851.19	275.67
12	1001.72	298.76

Vertici superficie Nr...1

N	X m	y m
1	245.71	210.14
2	300.54	202.53
3	356.14	210.83
4	497.25	228.48
5	624.75	244.33
6	671.85	247.52
7	723.72	259.77
8	749.81	275.99

Coefficienti parziali azioni

Sfavorevoli: Permanenti, variabili	1.0	1.0
Favorevoli: Permanenti, variabili	1.0	1.0

Coefficienti parziali per i parametri geotecnici del terreno

Tangente angolo di resistenza al taglio	1.25
Coazione efficace	1.25
Coazione non drenata	1.4
Riduzione parametri geotecnici terreno	No

Stratigrafia

Strato	Coazione (kg/cm2)	Coazione non drenata (kg/cm2)	Angolo resistenza al taglio (°)	Peso unità di volume (Kg/m3)	Peso saturo (Kg/m3)	Litologia	
1	0,11	0	25,8	1980	2180	SUBSTRATO GEOLOGIC	

							ALTERATO E DECOMPR ESSO - Argilla limoso-marn osa con sabbia	
2	0,35	0	26	2100	2300	SUBSTRAT O GEOLOGIC O - Argilla marnosa con intercalazion i sabbiose		

G0: Modulo di taglio dinamico a basse deformazioni; G: Modulo di taglio dinamico; Dr: Densità relativa; OCR: Grado di sovraconsolidazione; IP: Indice di plasticità

Strato	G0 (KPa)	G (KPa)	Dr (%)	OCR	IP (%)
1	18000	13500	0	1	36.1
2	288800	216600	0	4	34.4

Carichi distribuiti

N°	xi (m)	yi (m)	xf (m)	yf (m)	Carico esterno (kg/cm2)
1	558.31	249	578.31	251.0596	0.2
2	591.46	252.85	611.46	255.4571	0.2
3	623.04	256.86	643.04	259.4671	0.2
4	654.34	261.23	674.34	264.6339	0.2
5	689.35	267.15	709.35	270.5539	0.2
6	723.03	272.4	743.03	275.0938	0.2
7	757.85	277.07	777.85	279.7638	0.2

B: Larghezza del concio; Alfa: Angolo di inclinazione della base del concio; Li: Lunghezza della base del concio; Wi: Peso del concio ; Ui: Forze derivanti dalle pressioni neutre; Ni: forze agenti normalmente alla direzione di scivolamento; Ti: forze agenti parallelamente alla superficie di scivolamento; Fi: Angolo di attrito; c: coesione.

Superficie Nr...1 Fattore di sicurezza=2.41

Nr.	B m	Alfa (°)	Li m	Wi (Kg)	Kh•Wi (Kg)	Kv•Wi (Kg)	c (kg/cm2)	Fi (°)	Ui (Kg)	N'i (Kg)	Ti (Kg)
1	16.79	-7.9	17.077487.25	1317.28	619.9	0.11	25.8	0.081583.6	24382.4		
2	16.79	-7.9	16.9245846.9	4179.4	1966.78	0.11	25.866961.2186891.745752.2				
3	16.79	-7.9	17.0416586.5	7081.97	3332.69	0.11	25.8145365.9282824.965223.2				
4	16.79	4.5	16.8520308.7	8845.25	4162.47	0.11	25.8192846.9322740.072800.8				
5	16.79	8.5	17.0534186.1	9081.17	4273.49	0.11	25.8199271.1327640.474433.3				

6	16.79	8.5	17.0522194.3	8877.3	4177.56	0.11	25.8193867.5321173.273119.1
7	16.79	7.9	16.9513435.7	8728.41	4107.49	0.11	25.8189765.3316866.572123.7
8	16.79	7.1	16.9512134.6	8706.29	4097.08	0.11	25.8189265.8316463.971902.8
9	16.79	7.1	16.9514936.8	8753.93	4119.49	0.11	25.8190466.5318038.372221.7
10	16.79	7.2	16.9516742.6	8784.63	4133.94	0.11	25.8191339.3318933.872410.1
11	16.79	7.1	16.9518045.8	8806.78	4144.37	0.11	25.8191839.6319744.972567.4
12	16.79	7.1	16.9519607.9	8833.34	4156.86	0.11	25.8192640.1320493.672719.0
13	16.79	7.1	16.9521129.6	8859.2	4169.04	0.11	25.8193240.6321399.272902.4
14	16.79	7.1	16.9522691.6	8885.76	4181.53	0.11	25.8194041.2322147.873054.1
15	16.79	7.2	16.9509523.1	8661.89	4076.19	0.11	25.8187897.8315217.571658.0
16	16.79	7.1	16.9495987.7	8431.79	3967.9	0.11	25.8181682.1308067.070195.0
17	16.79	7.1	16.9482953.0	8210.2	3863.62	0.11	25.8175878.1300958.368755.2
18	16.79	7.1	16.9469877.8	7987.92	3759.02	0.11	25.8169873.8294006.667347.2
19	16.79	7.1	16.9470295.9	7995.03	3762.37	0.11	25.8163869.7300320.568626.0
20	16.79	7.1	16.9473198.0	8044.37	3785.58	0.11	25.8159238.5307726.870126.1
21	16.79	7.1	16.9464761.6	7900.95	3718.09	0.11	25.8160839.6297858.568127.4
22	16.79	7.1	16.9479829.4	8157.1	3838.64	0.11	25.8162641.0310901.170769.1
23	16.79	5.6	16.9484093.8	8229.6	3872.75	0.35	26.0 0.0474521.7121368.6
24	16.79	3.9	16.8516230.7	8775.92	4129.85	0.11	25.8181139.8330811.474361.9
25	16.79	3.9	16.8570766.3	9703.03	4566.13	0.11	25.8205628.9360559.480350.9
26	16.79	9.9	17.0594903.6	10113.36	4759.23	0.11	25.8219234.6367094.282827.6
27	16.79	13.3	17.3575893.3	9790.19	4607.15	0.11	25.8209223.4357904.882030.5
28	16.79	13.3	17.3532799.9	9057.6	4262.4	0.11	25.8189581.4334900.277279.1
29	16.79	24.1	18.4405187.9	6888.2	3241.5	0.11	25.8130979.9272177.969159.8
30	16.79	31.9	19.8159725.2	2715.33	1277.8	0.11	25.818284.0143050.044503.3

