DELOS – EVK3-CT2000-0041
Deliverable No 5 for WP1.1
LCS in IT UR3/MOD part

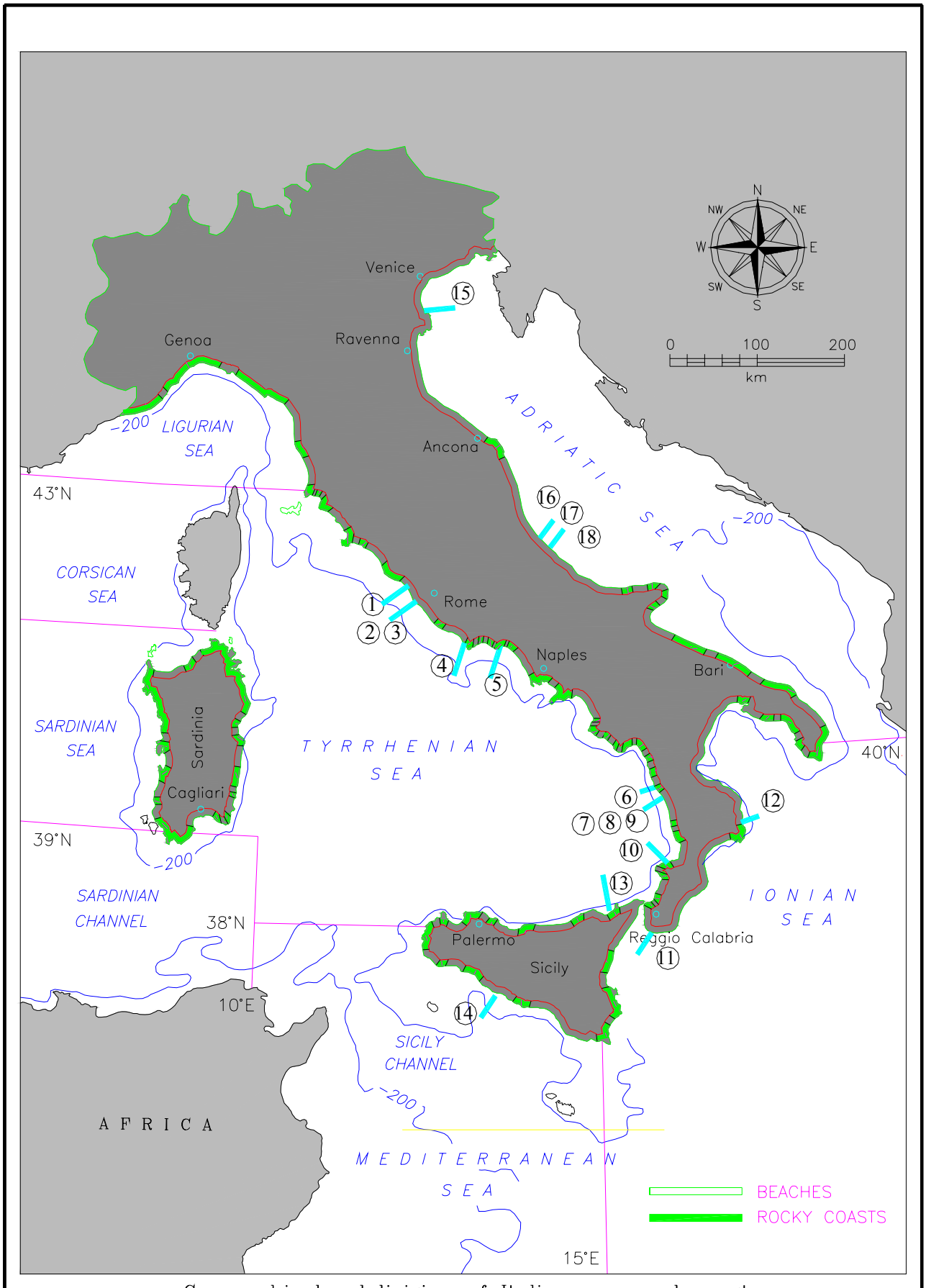
Based on the brief questionnaire

This document summarizes the information collected for DELOS WP1.1 “Inventory of engineering properties of LCS”.

IT Map, UR3/MOD part

The map illustrates the location of the LCS whose existence have been checked. The following table associates to every LCS an identification number and the name of the location.

IDENTIFICATION NUMBER	File Name	LOCATION
1	WIT_10_01	Fiumicino-Focene
2	WIT_10_02	Ostia (I)
3	WIT_10_03	Ostia (II)
4	WIT_10_04	Nettuno
5	WIT_09_01	Castel Volturno
6	WIT_08_01	Guardia Piemontese
7	WIT_08_02	Diamante
8	WIT_08_03	Paola
9	WIT_08_04	Paola-San Lucido
10	WIT_08_05	Briatico
11	WIT_08_06	Montebello Jonico
12	WIT_08_07	Amendolara
13	WIT_13_01	Golfo di Patti
14	WIT_13_02	Agrigento
15	EIT_01_01	Pellestrina
16	EIT_04_01	Silvi Marina
17	EIT_04_02	Pescara Sud
18	EIT_04_03	Casalbordino



Geographical subdivision of Italian seas and coasts

UR3_MOD_EIT_01_01 (15), Pellestrina

Location

Pellestrina, 20 Km from Venice on the Adriatic Sea.

Main motive for building the LCS

Protection against coastal erosion

Impact on bio-environment

The building of the LCS and the nourishment contributed to the grow of the population of some algae and fish in the zone.

Socio-economic impact

The nourishment have been made in order to save the Venice Lagoon, which is unique in the World. All human activities in the zone benefit from the beach safeguard. No beach existed since 1700, only a seawall was built in order to defend the coast from erosion. The new defence schemme improves the safety of the town and the lagoon

System layout

Fig.1: Aerial view of Pellestrina beach

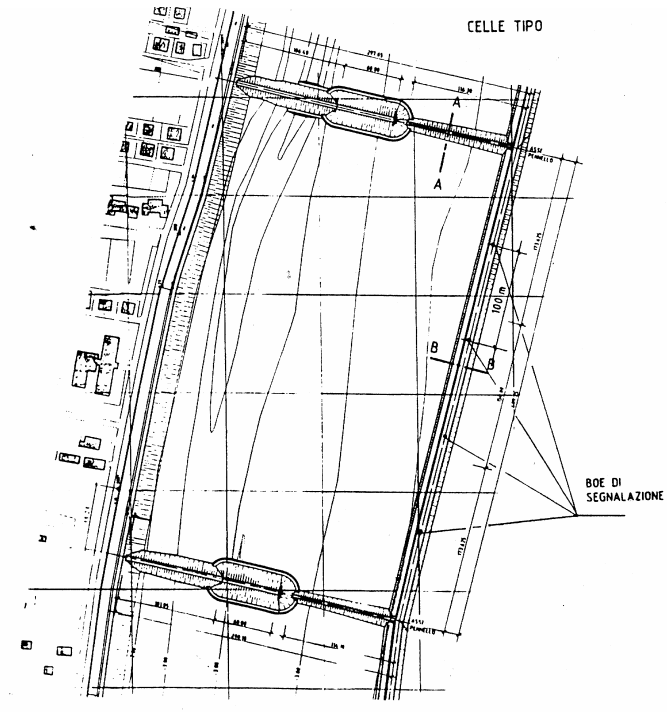
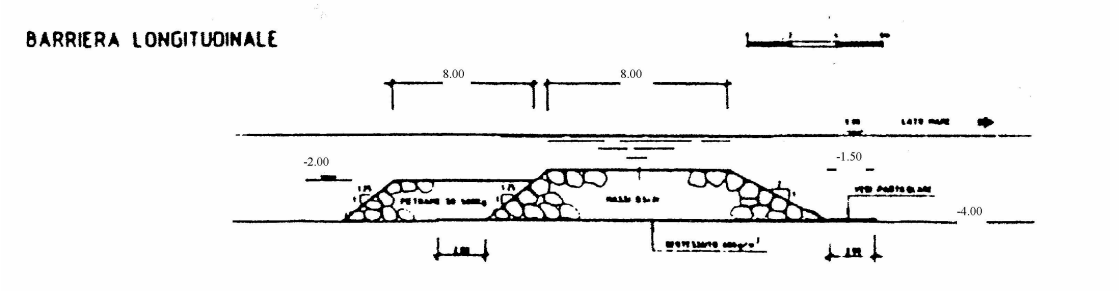


Fig. 2 : Scheme of the cell

Typical cross section



Indication of water level variations

Sea Level variation due to astronomical tide is contained in the range $\pm 0.50m$.

Existence of detailed information

A wide documentation exists on Pellestrina nourishment.

UR3_MOD_WIT_04_01 (16), Silvi Marina

Location

Silvi marina 10 Km from Pescara on the Adriatic Sea

Main motive for building the LCS

Protection against coastal erosion

Impact on bio-environment

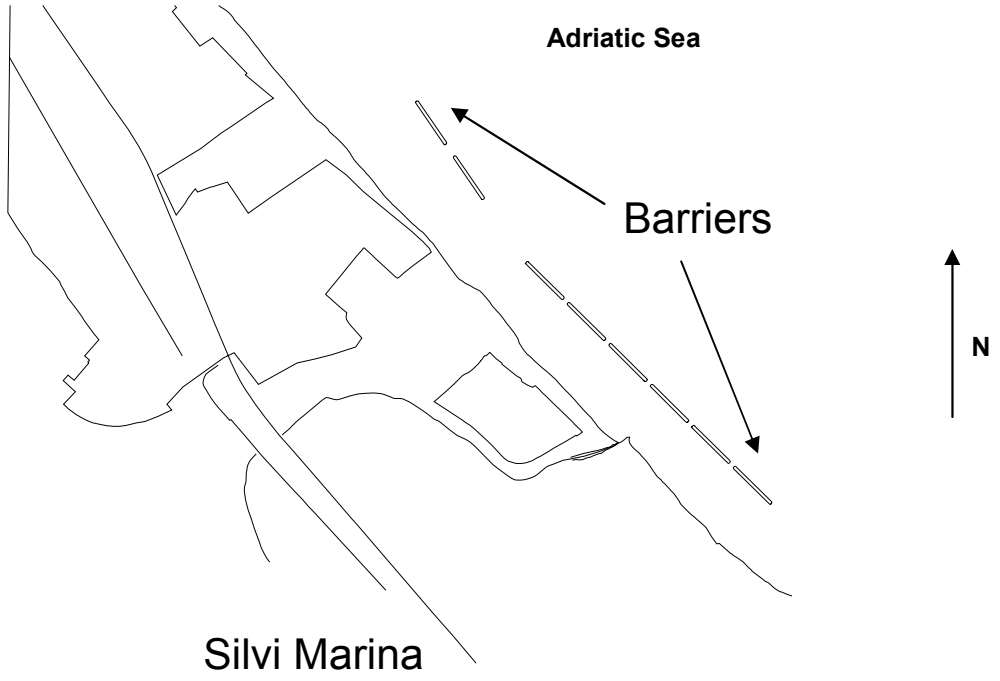
No information about this aspect

Socio-economic impact

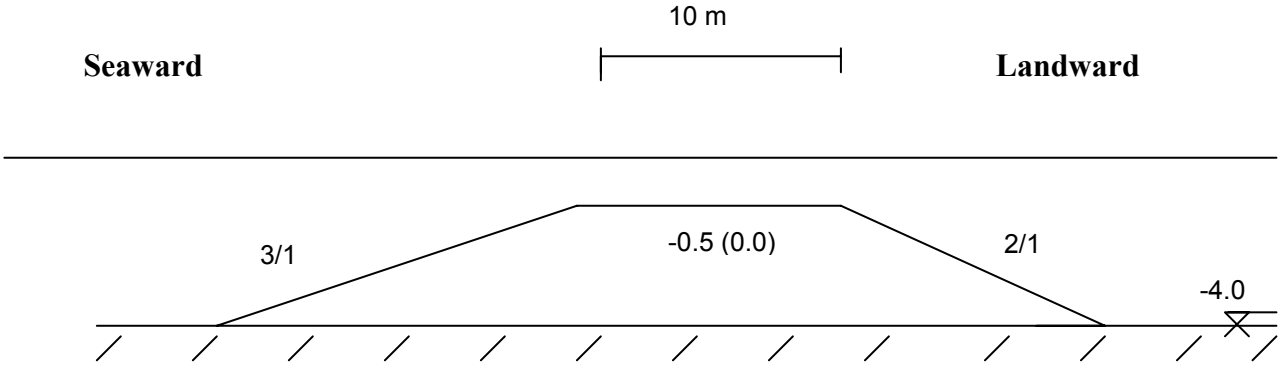
No information about this aspect

System layout

Six elements (in the sothern part of the following map) with submergency equal to zero and three elements with submergency equal to –0.5 m.



Typical cross section



Indication of water level variations

Sea Level variation due to astronomical tides is contained in the range $\pm 0.25m$.

Existence of detailed information

No information about this aspect

UR3_MOD_WIT_04_02 (17), Pescara

Pescara, on the Adriatic coasts of Abruzzo

Main motive for building the LCS
Protection against coastal erosion

Impact on bio-environment
No information about this subject

Socio-economic impact
Pescara is a tourisitc resort. The barriers protect the beach which is used for seaside activities.

System layout

Indication of water level variations

Sea Level variation due to astronomical tide is contained in the range $\pm 0.25m$.

Existence of detailed information

No information.

UR3_MOD_WIT_04_03 (18), Casalbordino

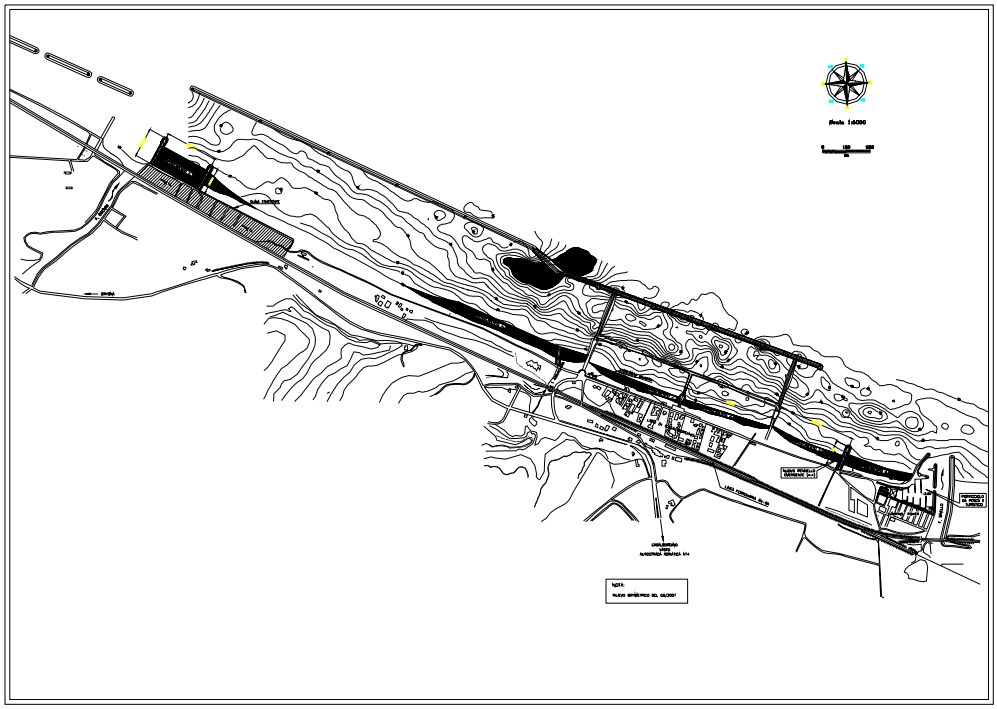
Casalbordino 40 km from Pescara on the Adriatic Sea

Main motive for building the LCS
Proctetion against littoral erosion

Impact on bio-environment
No information about this aspect

Socio-economic impact
No information about this aspect

System layout



Typical cross section

No information about this aspect

Indication of water level variations

Sea Level variation due to astronomical tides is contained in the range $\pm 0.20m$.

Existence of detailed information

No

UR3_MOD_WIT_08_01 (6), Guardia Piemontese

Guardia Piemontese (Cosenza) on the Tyrrhenian coasts of Calabria (1994)

Main motive for building the LCS

Protection of the town Guardia Piemontese from beach erosion

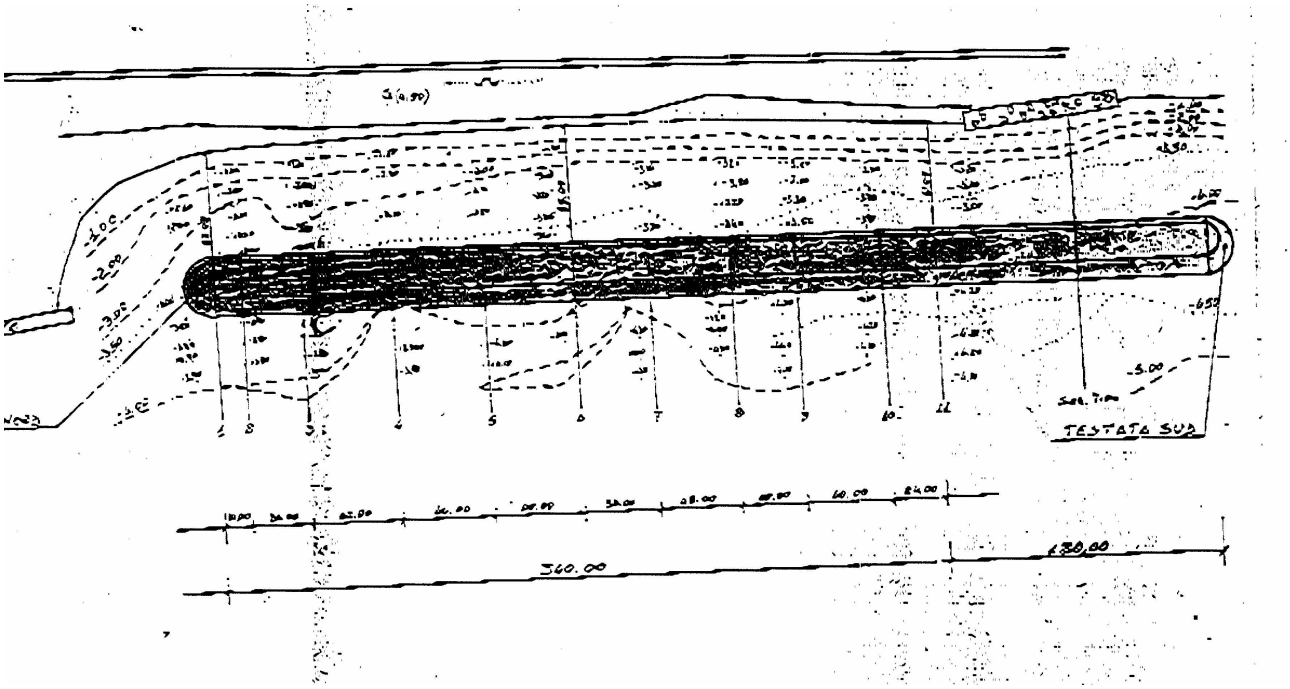
Impact on bio-environment

No information available on this aspect.

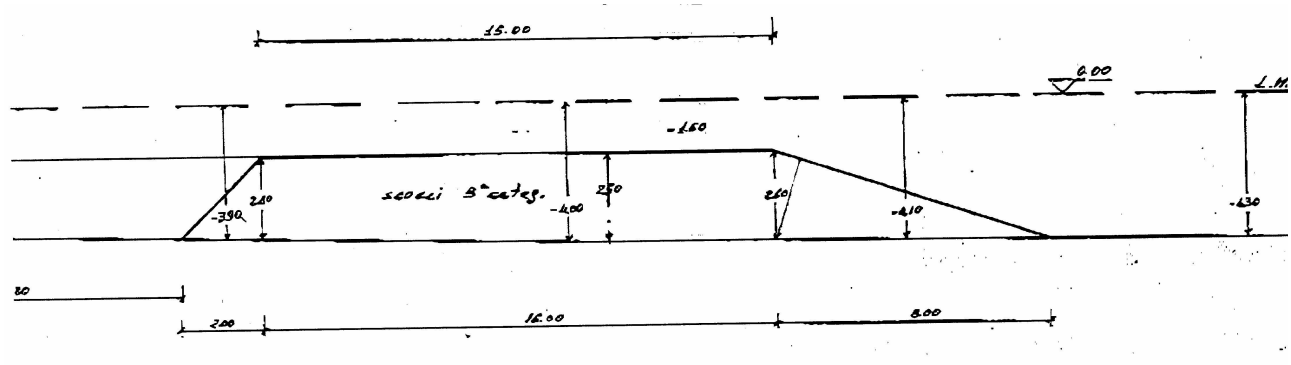
Socio-economic impact

No information about this aspect.

System Layout



Typical cross section



Indication of water level variations

Sea Level variation due to astronomical and meteorogical causes is contained in the range $\pm 0.25m$.

Existence of detailed information

No.

UR3_MOD_WIT_08_02 (7), Diamante

Diamante (Cosenza) on the Tyrrhenian coasts of Calabria

Main motive for building the LCS

Protection of the Battipaglia-Reggio Calabria railway from beach erosion

Impact on bio-environment

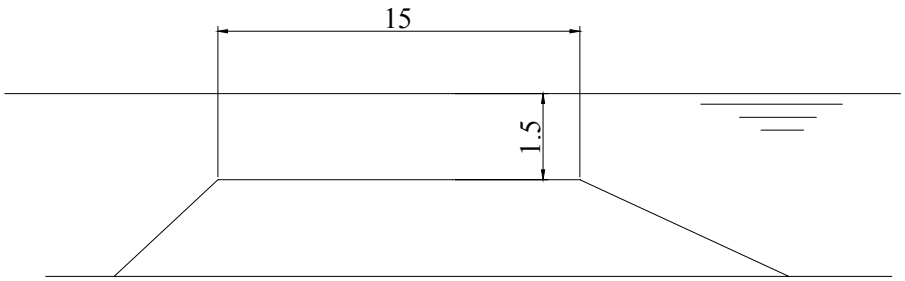
No information available on this aspect.

Socio-economic impact

The safety of the railway is of strategic importance for the economic activities of the region.

System Layout

Typical cross section



Indication of water level variations

Sea Level variation due to astronomical tide is contained in the range $\pm 0.20m$.

Existence of detailed information

Some information are available from FF.SS.

UR3_MOD_WIT_08_03 (8), Paola

Paola (Cosenza) on the Thyrrenian coasts of Calabria (1988)

Main motive for building the LCS

Protection of the town Paola from beach erosion

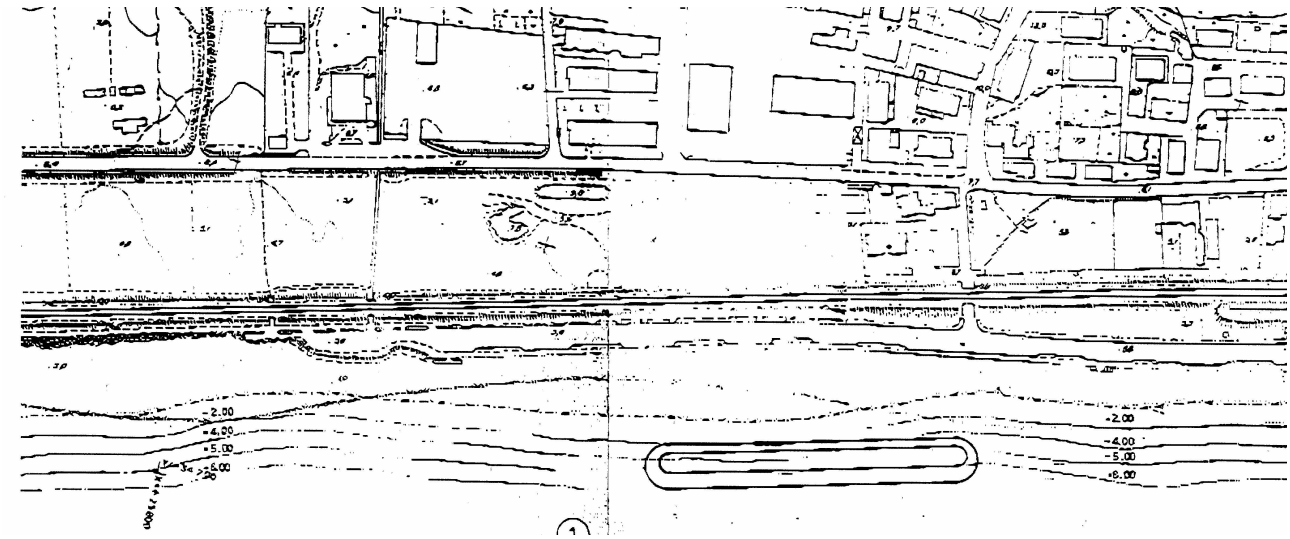
Impact on bio-environment

No information available on this aspect.

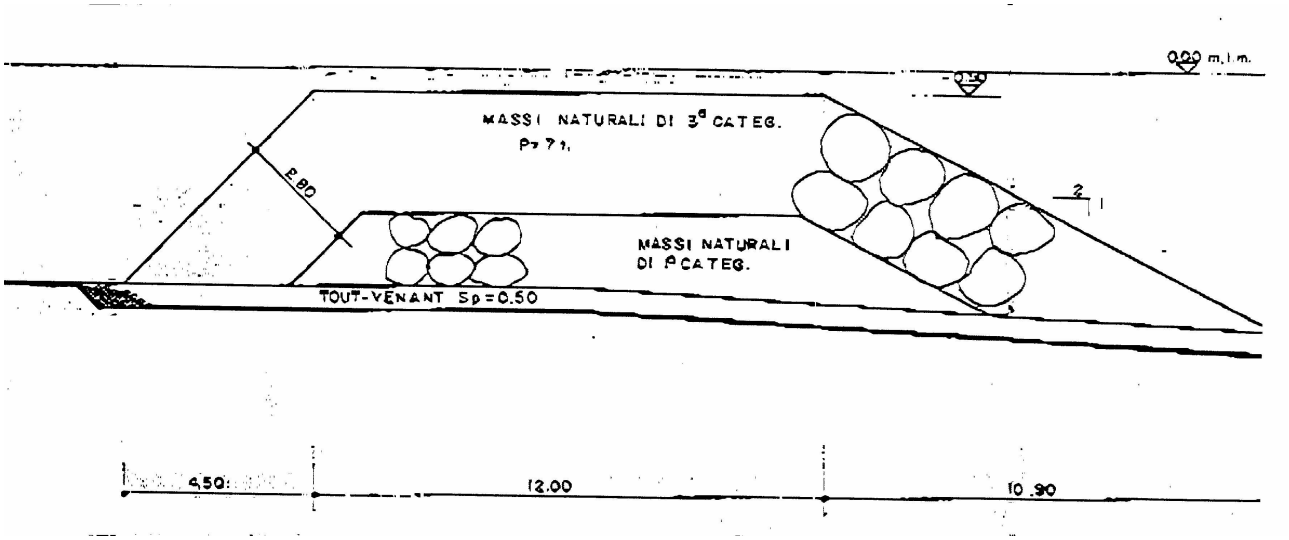
Socio-economic impact

No information about trhis aspect.

System Layout



Typical cross section



Indication of water level variations

Sea Level variation due to astronomical and meteorogical causes is contained in the range $\pm 0.25m$.

Existence of detailed information

No.

UR3_MOD_WIT_08_04 (9), Paola

Paola (Cosenza) on the Tyrrhenian coasts of Calabria (1980-1990)

Main motive for building the LCS

Protection of the Battipaglia-Reggio Calabria railway from beach erosion

Impact on bio-environment

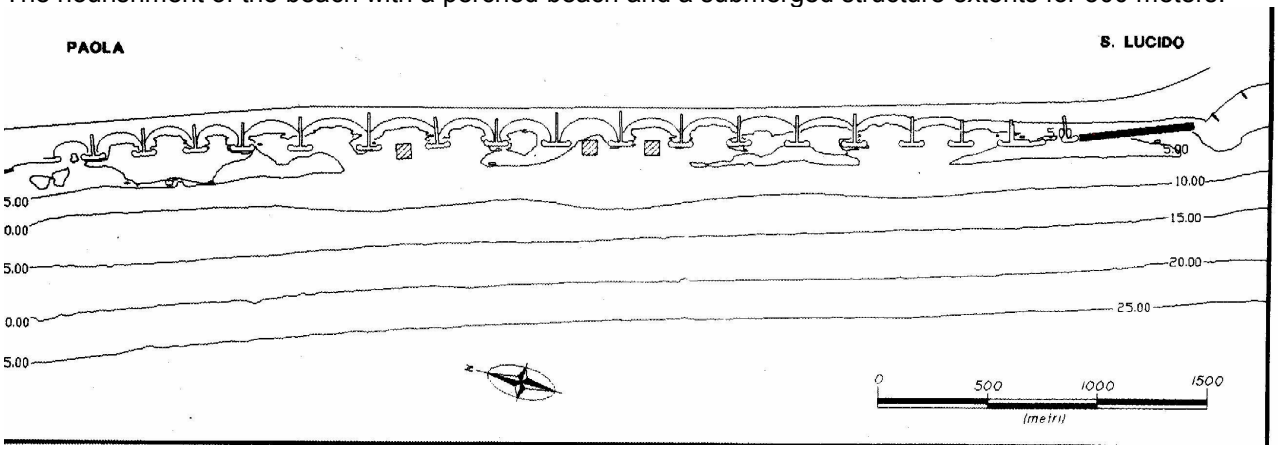
No information available on this aspect.

Socio-economic impact

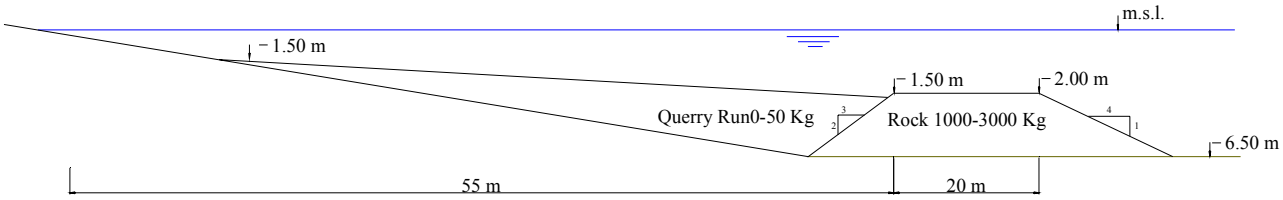
Reliability of the railway increased.

System Layout

The nourishment of the beach with a perched beach and a submerged structure extents for 500 meters.



Typical cross section



Nourishment sketch

Indication of water level variations

Sea Level variation due to astronomical and meteorogical causes is contained in the range $\pm 0.25m$.

Existence of detailed information

Some information are available from FF.SS. (Italian railways)

UR3_MOD_WIT_08_05 (10), Briatico

Briatico (Catanzaro) on the Tyrrhenian coasts of Calabria

Main motive for building the LCS

Protection of the town Briatico against beach erosion

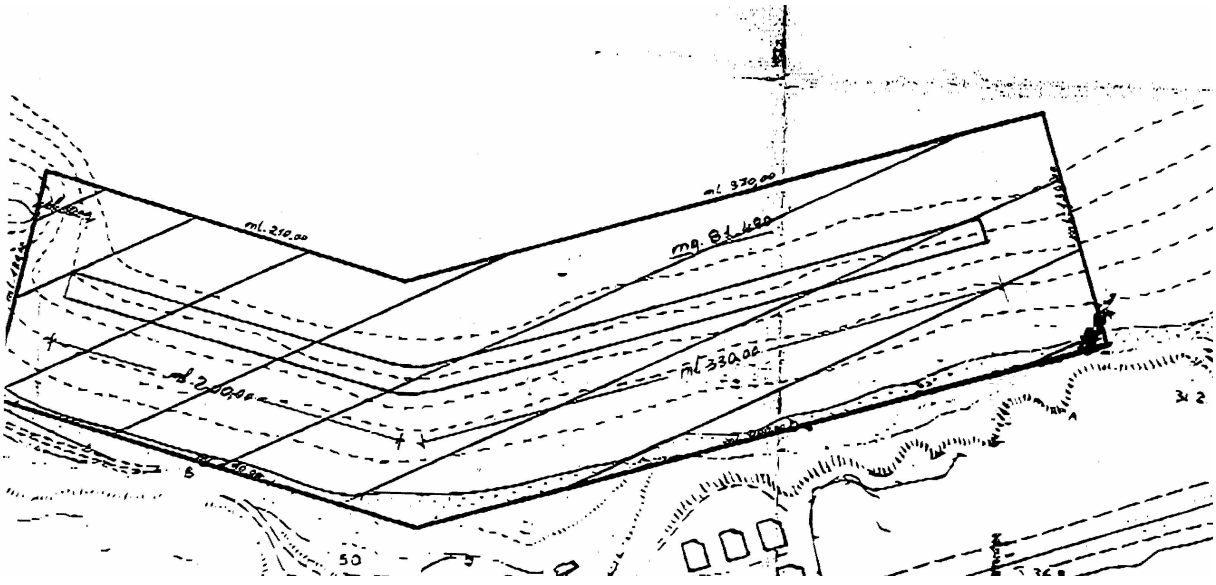
Impact on bio-environment

No information available on this aspect.

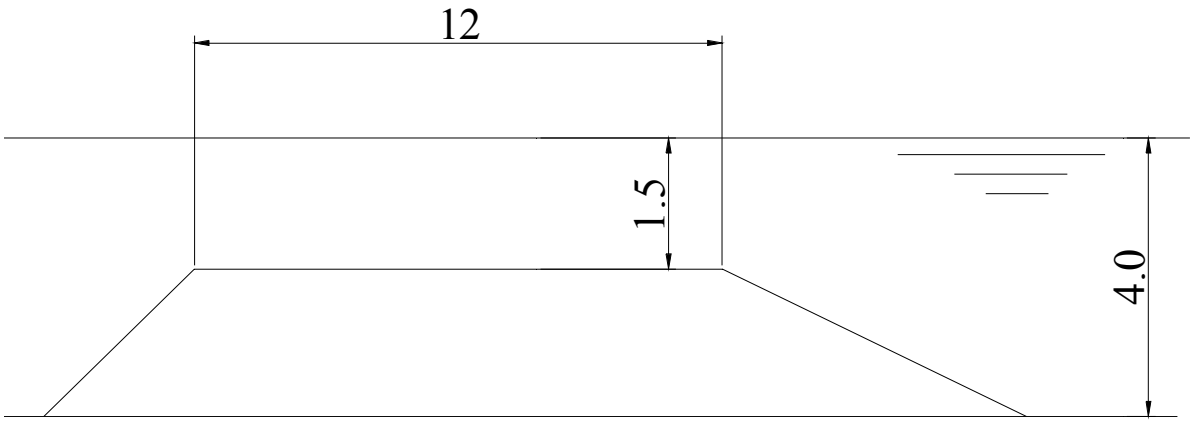
Socio-economic impact

No information about this aspect.

System Layout



Typical cross section



Indication of water level variations

Sea Level variation due to astronomical tide is contained in the range $\pm 0.20m$.

Existence of detailed information

No.

UR3_MOD_WIT_08_06 (11), Montebello Jonico

Montebello Jonico (Reggio Calabria) on the Jonian coasts of Calabria (1994)

Main motive for building the LCS

Protection of the town Montebello Jonico from beach erosion

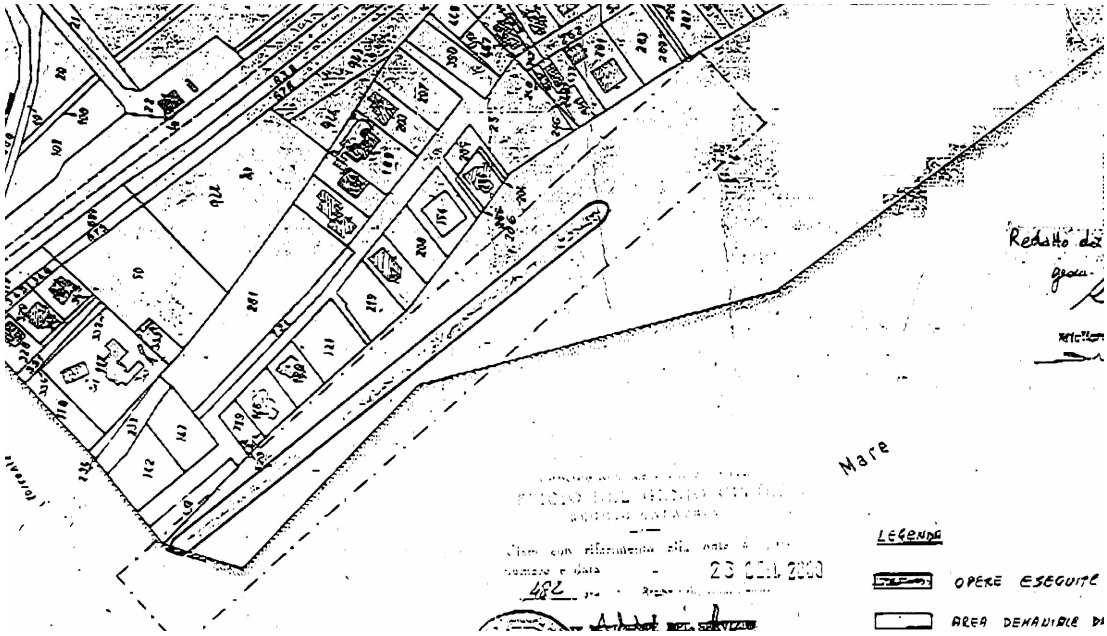
Impact on bio-environment

No information available on this aspect.

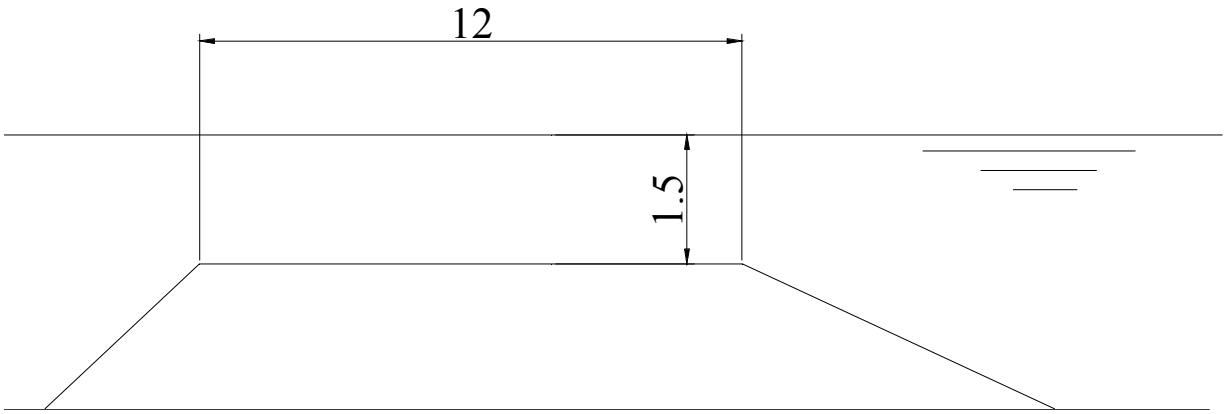
Socio-economic impact

No information about this aspect.

System Layout



Typical cross section



Indication of water level variations

Sea Level variation due to astronomical tides is contained in the range $\pm 0.20m$.

Existence of detailed information

No.

UR3_MOD_WIT_08_07 (12), Amendolara

Amendolara (Crotone) on the Jonian coasts of Calabria

Main motive for building the LCS

No information about this aspect

Impact on bio-environment

No information on this aspect.

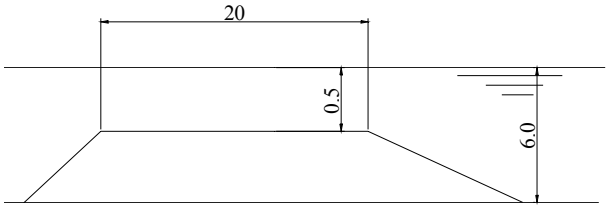
Socio-economic impact

No information about this aspect.

System Layout

Not available

Typical cross section



Indication of water level variations

Sea Level variation due to astronomical and meteorogical causes is contained in the range $\pm 0.25m$.

Existence of detailed information

No.

UR3_MOD_WIT_09_01 (5), Castelvolturno

Castelvolturno (Caserta) 40 Km from Naples on the Tyrrhenian Sea

Main motive for building the LCS

Proctetion against littoral erosion

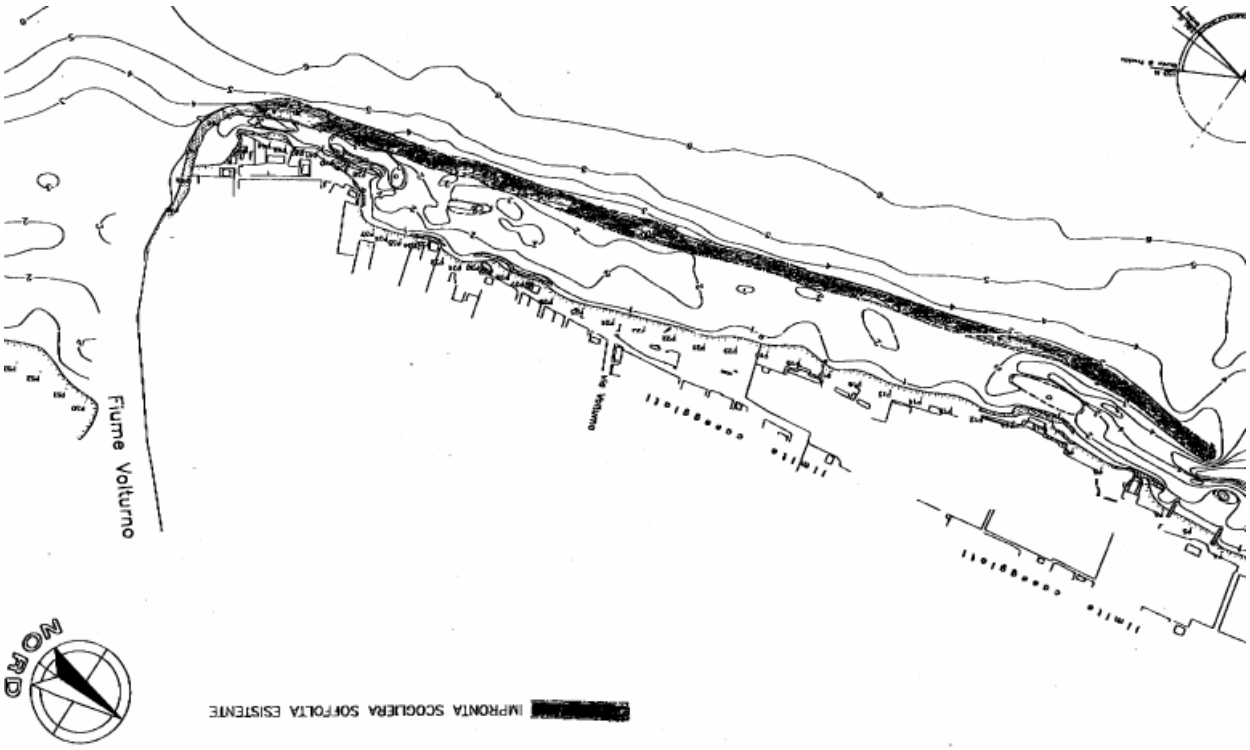
Impact on bio-environment

No information are available about this aspect.

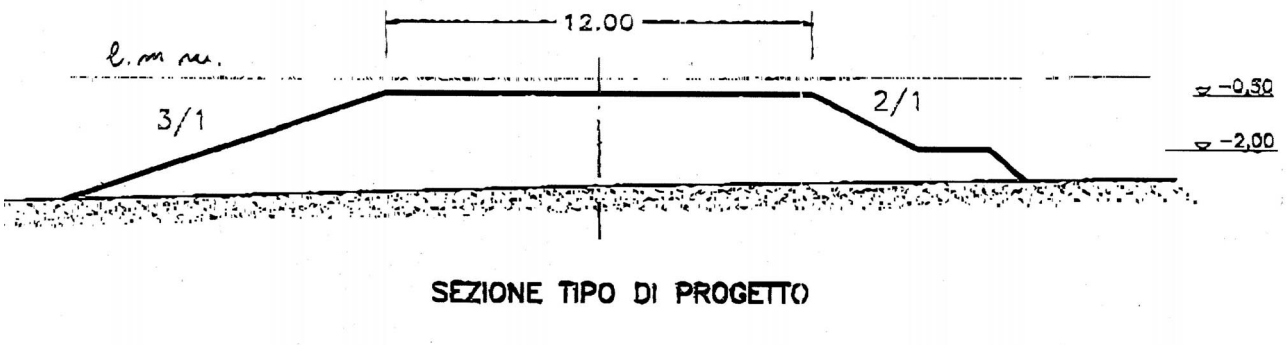
Socio-economic impact

Castelvolturno beaches are important holiday resort, they were seriously damaged by wave action, the nourishment and the LCS have been useful to re-construct the beach and allowed touristic activities to grow.

System layout



Typical cross section



SEZIONE TIPO DI PROGETTO

Indication of water level variations

Sea Level variation due to astronomical tide is contained in the range $\pm 0.20m$.

Existence of detailed information

Some detailed information can be retrieved by Ministry of Public Works “Genio Civile Opere Marittime” in Naples

UR3_MOD_WIT_10_01 (1), Fiumicino

Fiumicino 40 Km from Rome on the Tyrrhenian Sea

Main motive for building the LCS

Beach erosion

Impact on bio-environment

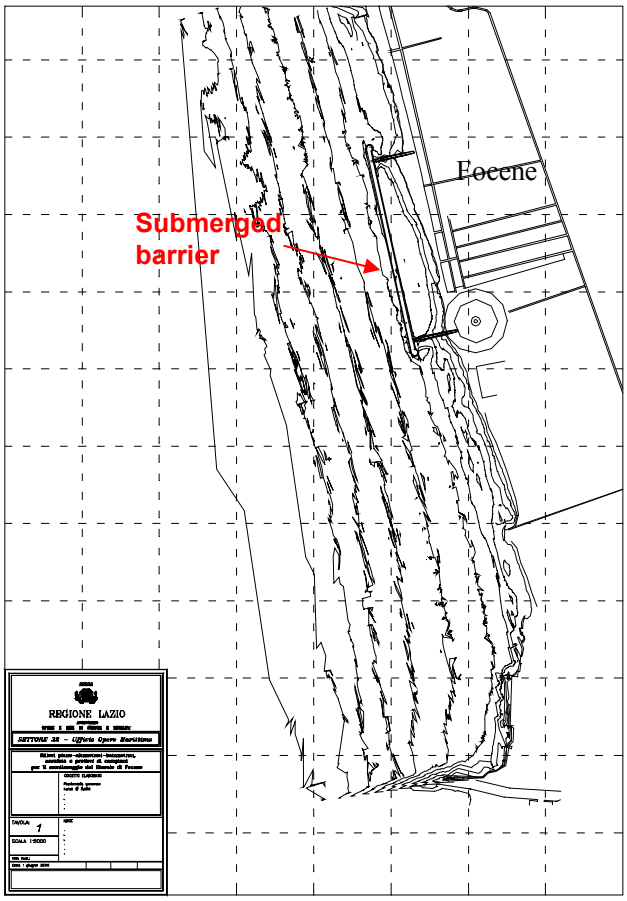
No information about this aspect

Socio-economic impact

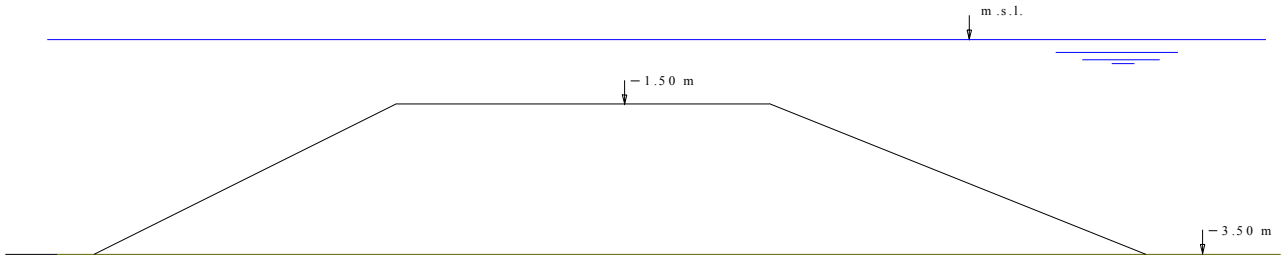
No information about this aspect

System Layout

The structures are located between Fiumicino and Focene end extent for 700 m



Typical cross section



Indication of water level variations

Sea Level variation due to astronomical tide is contained in the range $\pm 0.20m$.

Existence of detailed information

Yes

UR3_MOD_WIT_10_02 (2), Lido di Ostia

Lido di Ostia 25 Km from Rome on the Tyrrhenian Sea

Main motive for building the LCS

Protection of an artificial beach nourishment

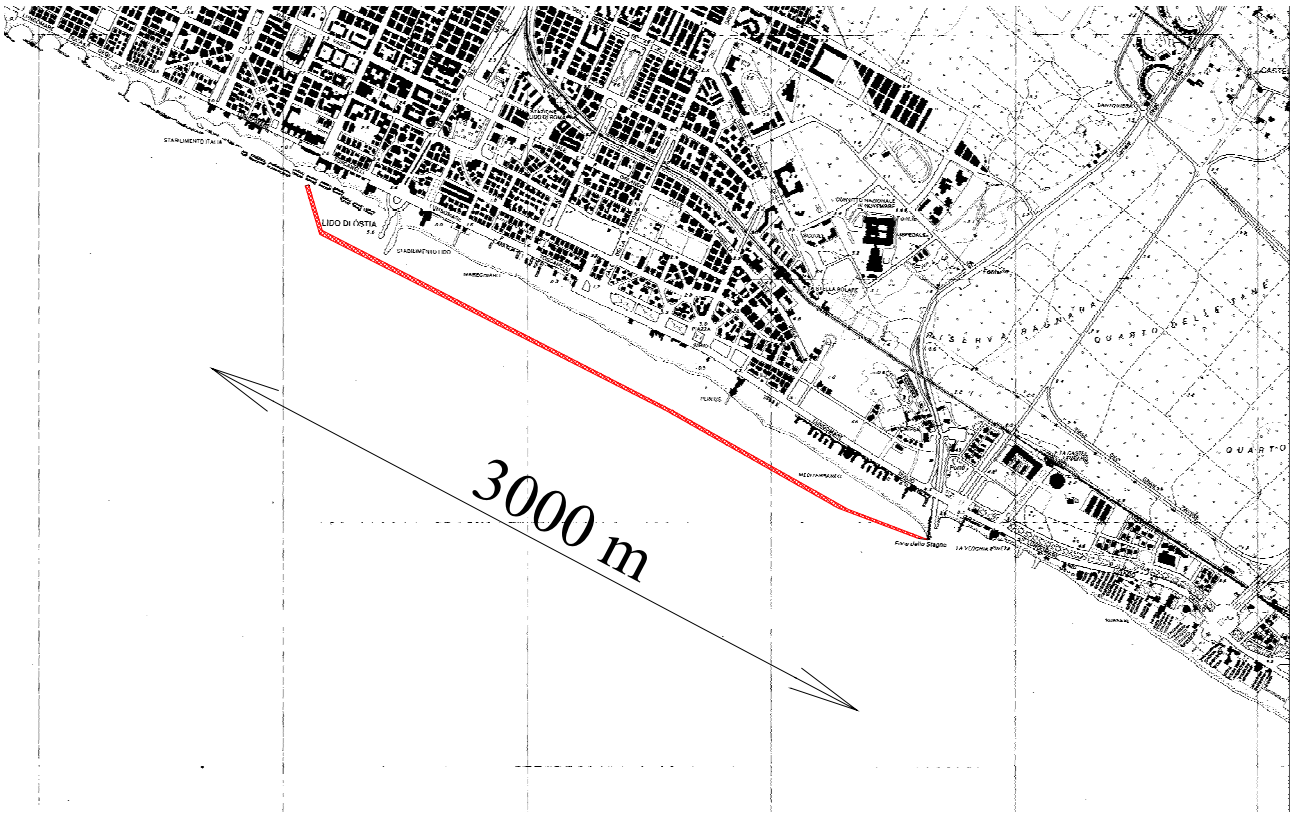
Impact on bio-environment

Wildlife increased after the barrier construction

Socio-economic impact

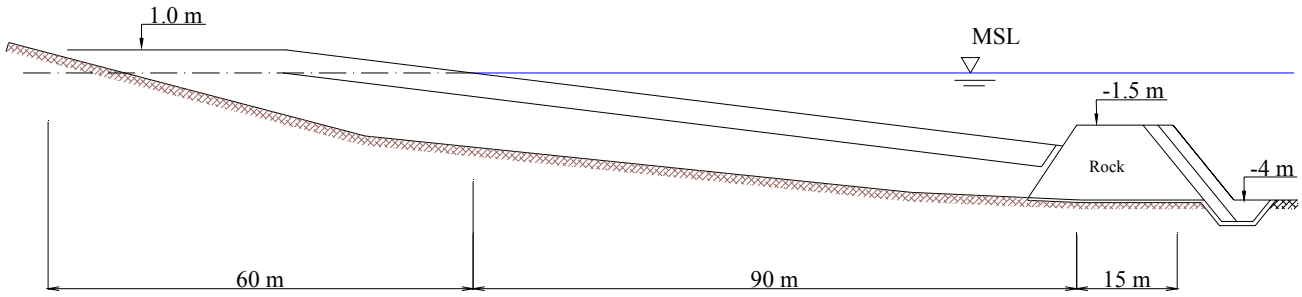
Ostia beaches represent long since a very popular holiday resort for Roman community. Many touristic activities increased after the beach was re-created.

System Layout



Design plan of the submerged barrier

Typical cross section



Barrier and perched beach design

Indication of water level variations

Sea Level variation due to astronomical tide is contained in the range $\pm 0.20m$.

Existence of detailed information

A wide documentation and monitoring data exist about this project.

UR3_MOD_WIT_10_03 (3), Lido di Ostia

Lido di Ostia 25 Km from Rome on the Tyrrhenian Sea

Main motive for building the LCS

Protection of an artificial beach nourishment

Impact on bio-environment

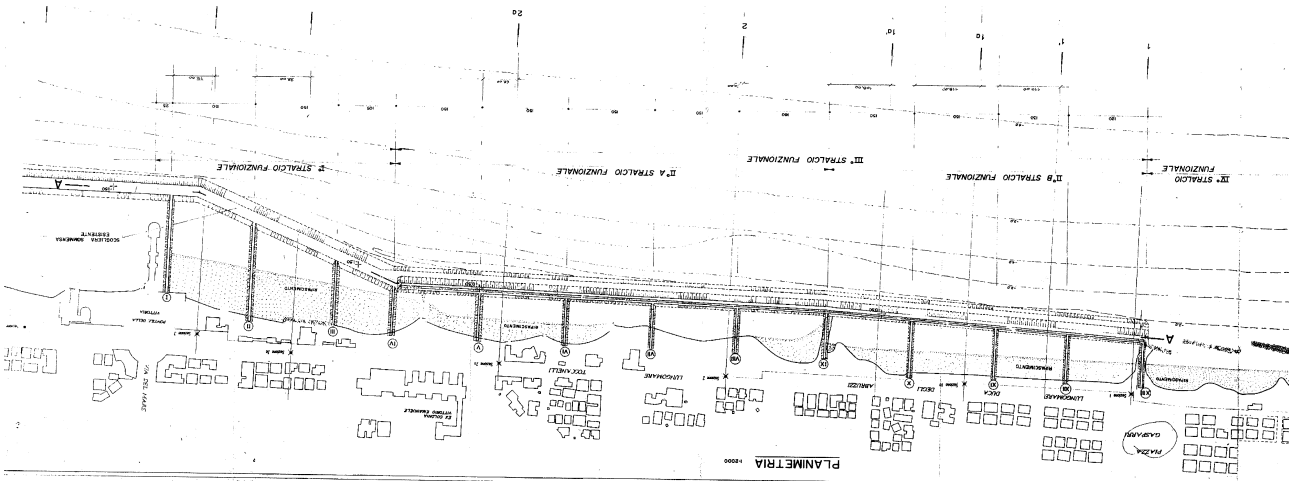
Wildlife increased after the barrier construction

Socio-economic impact

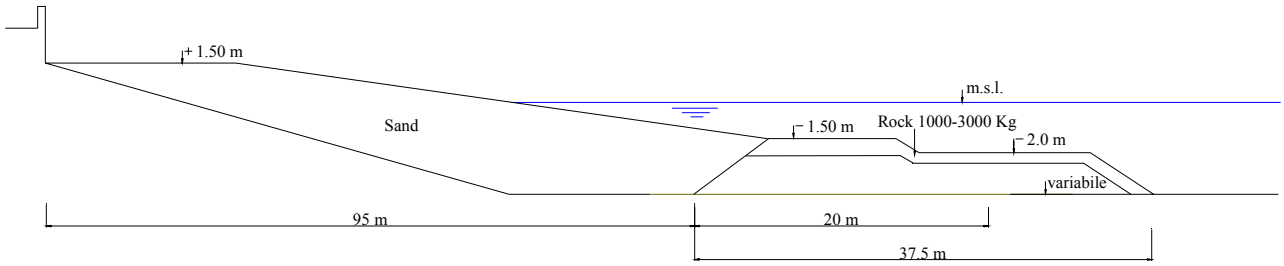
Ostia beaches represent long since a very popular holiday resort for Roman community. Many touristic activities increased after the beach was re-created.

System Layout

The structures are situated between Gasparri Square in Ostia Lido and Victoria Peer in prosecution of the nourishment described in the questionnaire of WIT_).



Typical cross section



Barrier and perched beach design

Indication of water level variations

Sea Level variation due to astronomical and meteorogical causes is contained in the range $\pm 0.25m$.

Existence of detailed information

A wide documentation and monitoring data exist about this project.

UR3_MOD_WIT_10_04 (9), Nettuno

Nettuno (Latina) on the Tyrrhenian coasts of Lazio

Main motive for building the LCS

The barrier was built to protect a nourishment

Impact on bio-environment

No information available on this aspect.

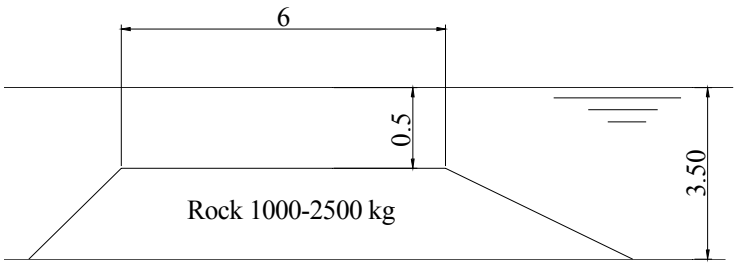
Socio-economic impact

No information about this aspect.

System Layout

Two barriers of 700 m and 800 m whose distance from the shoreline is respectively 150 and 200 meters. The gap between them is 90 meters. No sketch or aerial photo is available.

Typical cross section



Indication of water level variations

Sea Level variation due to astronomical tide is contained in the range $\pm 0.20m$.

Existence of detailed information

No.

UR3_MOD_WIT_13_01 (13), Patti

Patti (Messina) on the Tyrrhenian coasts of Sicily

Main motive for building the LCS

The barrier was built to prevent beach erosion

Impact on bio-environment

No information about this aspect.

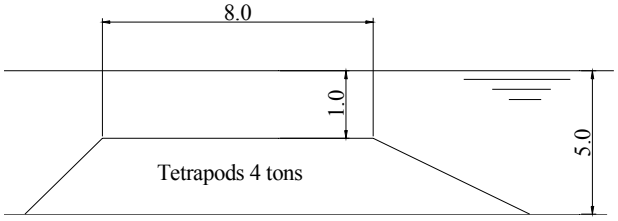
Socio-economic impact

No information about this aspect.

System Layout

One barrier of 350 m whose distance from the shoreline is 100 meters. No sketch or aerial photo is available.

Typical cross section



Indication of water level variations

Sea Level variation due to astronomical tide is contained in the range $\pm 0.20m$.

Existence of detailed information

No.

UR3_MOD_WIT_13_02 (14), Agrigento

Agrigento, on the southern coast of Sicily

Main motive for building the LCS

Protection against coastal erosion

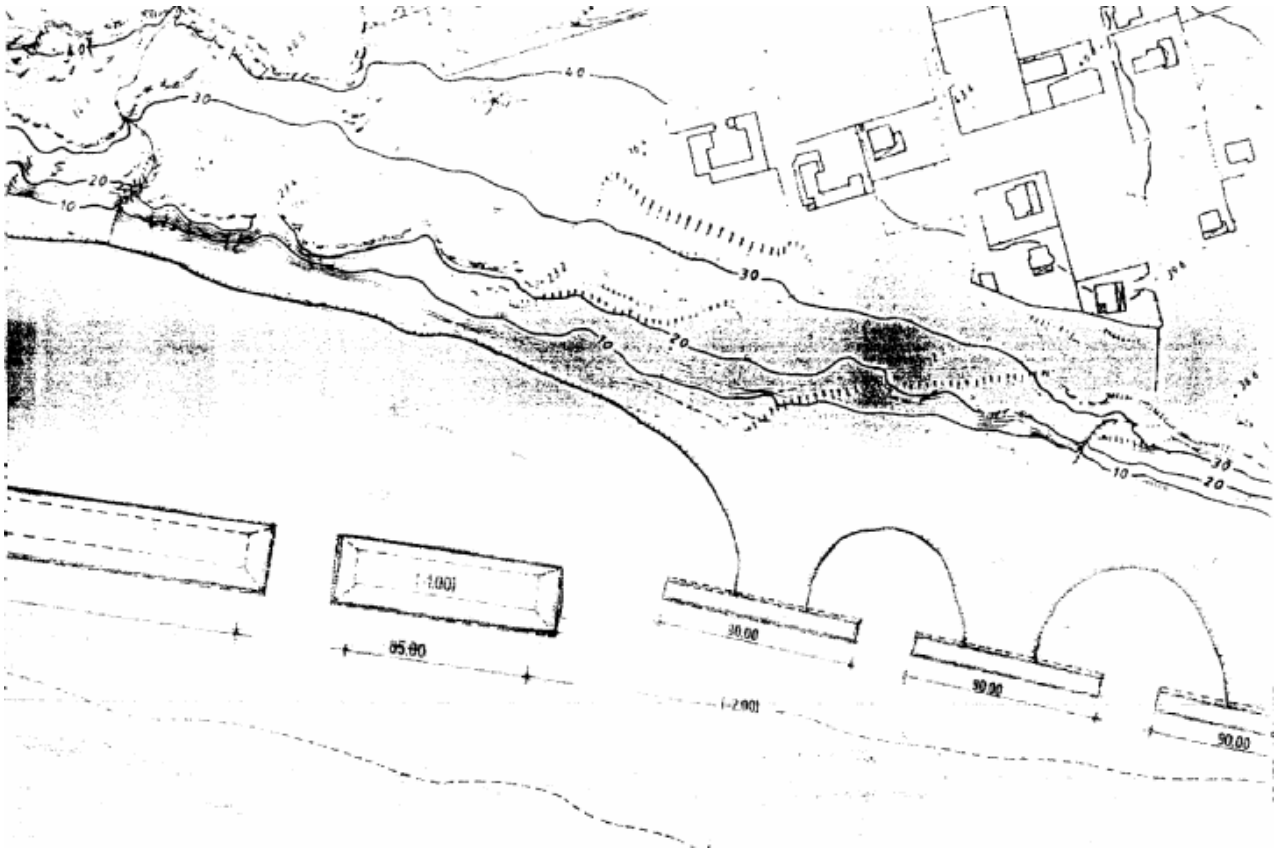
Impact on bio-environment

The width of the beaches are increased with formation of tombolos in front of the submerged structures. In the rest of coast the erosion process is going on. Cliffs in the zone are seriously damaged by his process.

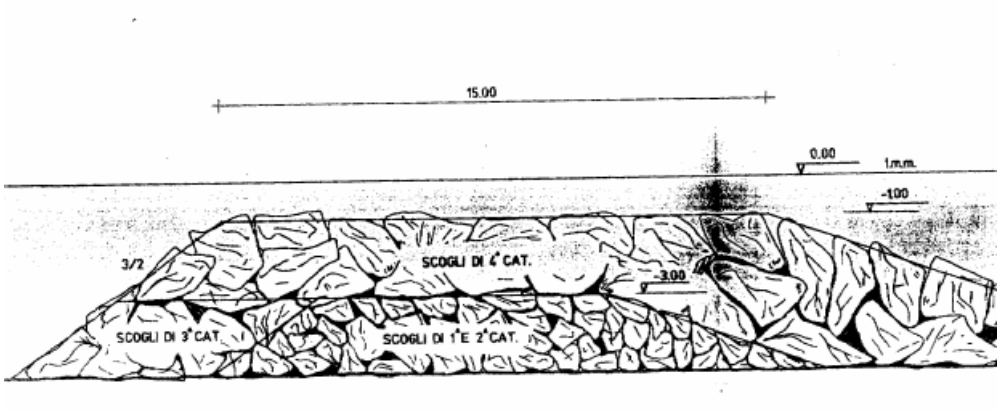
Socio-economic impact

No information about this aspect.

System layout



Typical cross section



Indication of water level variations

Sea Level variation due to astronomical tide is contained in the range $\pm 0.20m$

Existence of detailed information

No