



Overhead view of Sancti Petri Castle Overhead view of Sancti Petri Castle Over-

Restoration of Sancti Petri Castle

Cádiz

CLIENT	Spanish Environment Ministry
PROJECT DATE	2007-2010
LOCATION	Cádiz, Spain
FIELD OF ACTION	Construction Project and Technical assistance during construction

The island of Sancti Petri, with a fortress that is located off the coast of San Fernando and Chiclana in the outfall of the Sancti-Petri inlet, is where historians have located the legendary temple of Hercules. The castle is part of the fortifications built during the XVI-XVII centuries to defend the Bay of Cádiz.

The castle is built on the bedrock and occupies most of the island. The buildings that now form part of the castle can be divided into two main areas. The northern area includes the tower, which was used as a powder store, the circular main courtyard and rooms used as barracks, kitchens, and the master's quarters.

The southern area, constructed later, in the second half of the XVIII century, were



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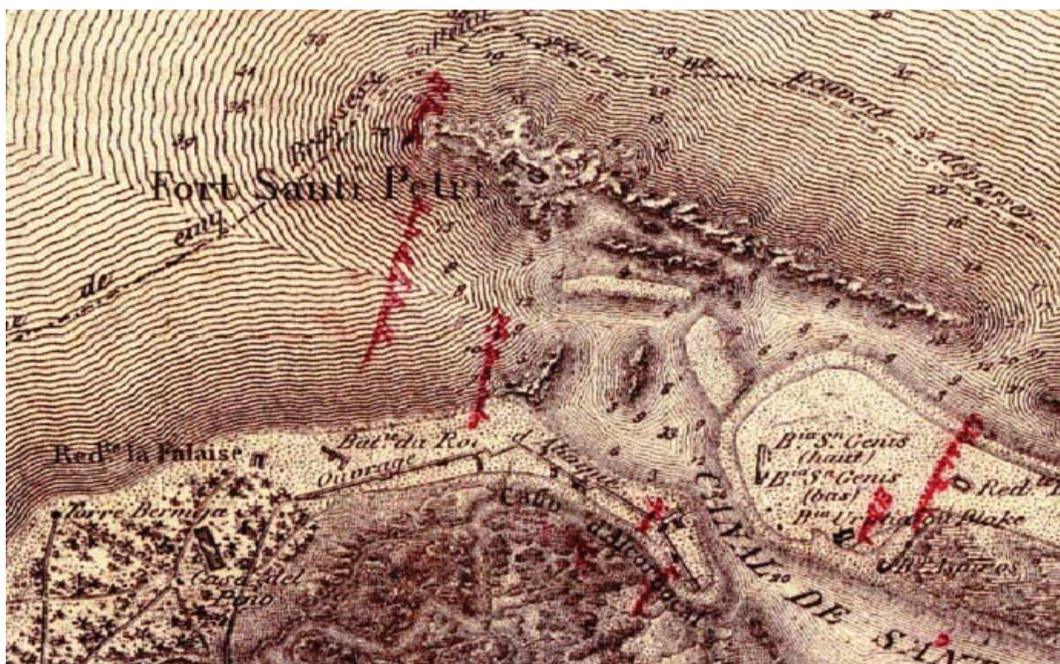
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auxiliary buildings used for munitions storage and surveillance. This area was partially demolished during the storm by waves, undermining and destroying the retaining wall, with subsequent collapse of the corner overlooking San Fernando.

The castle has been object to modifications and restorations over for centuries, the last one in the XIX century. Therefore, it required guaranteed intervention which relied on technical criteria that are specific to this case. Usual criteria for renovation had to be combined with elements belonging to the historical and cultural heritage of Spain.

Moreover, due to its location in a natural reserve, access to the monument was limited, and strong environmental regulations were observed (in the pictures, from left to right, seagull eggs, old ammunition and cynomorium coccineum).

It should be pointed out the advanced state of deterioration in which the castle was found. Most of the damage detected was due to the castle's poor durability, because the castle is under serious environmental stress and the materials used were only of average mechanical performance and durability.



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These conditions, such as a lack of protective elements (roofs and drainage systems) and a lack of maintenance operations for almost one hundred years, are associated with the progressive acceleration of the deterioration, leading to serious consequences for the stability of the buildings.

Damage was spread throughout the entire castle. Given that the environmental conditions are unlikely to change, the renovations should protect the area by reconstructing those elements that are at serious risk of collapse or essential to the castle's structure.

The walls that protect the castle from the sea, which are necessary for the survival of the castle, were rebuilt improving the construction quality while keeping a traditional style.

Reconstructed areas should be distinguished from the original. For this reason, we used different finishes, including the use of stone, different types of plaster, and so forth. We also integrated the existing coatings with the new ones and differentiated between them.

We used traditional materials compatible with the existing ones. Specifically, we performed the reconstruction based on traditional materials, but required that they be durable (lifespan of at least 50 years) and could also be controlled effectively and similarly to modern works and materials.



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We implemented a control methodology that ensured that the work would go smoothly and allow for the possibility of correcting the work units based on the results obtained.

Therefore, we proposed a program to control and evaluate the characteristics of the materials to be used in the work.

A summary of the restoration works undertaken in the castle is: cleaning and repairing elements, restoration and structural strengthening of buildings, replacement of wood covers and pavements, improving drainage system, protection against marine actions and construction of a small quay to access the island.

Finally, an objective of the entire project was the spreading of the valuable cultural heritage of Sancti-Petri castle.



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