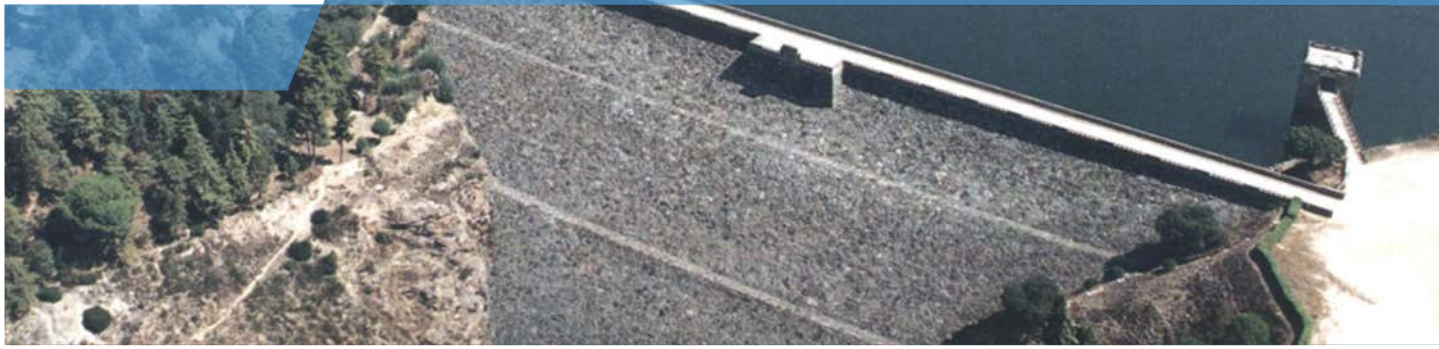




Historical Works



Pego do Altar Dam

Santa Catarina River, Setúbal (Portugal)

Description of Work

Rockfill dam with an upstream watertight face made of welded stainless-steel plates with elastic joints. This technical solution is quite uncommon but has shown an excellent behaviour along the years.

The stored water is used for irrigation of the downstream hydroagricultural development and in hydroelectric production.

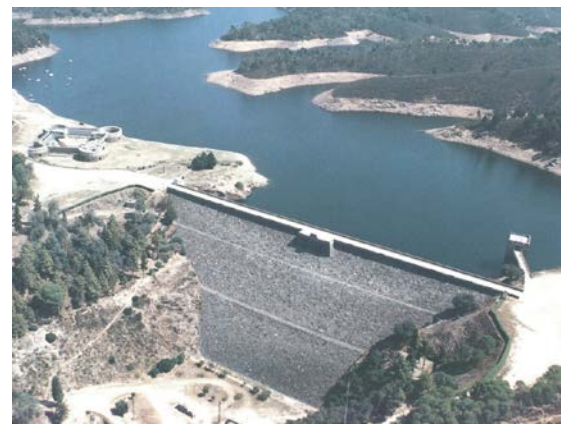
Height: 63 m

Crest length: 192 m

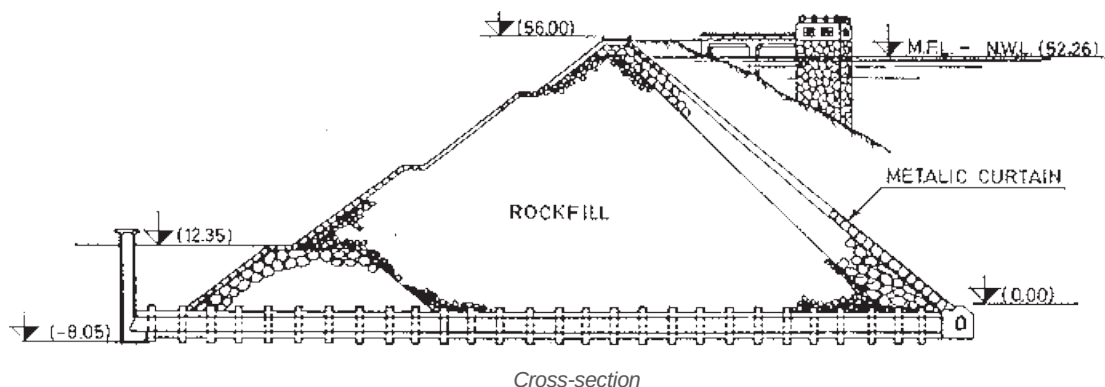
Spillway: Controlled

Dam volume: 371 000 m³

Reservoir: 876 ha / 94 hm³



Project included in the "100 Civil Engineering Works of the 20th Century" selection by the Portuguese Order of Engineers.



Work Summary

Client	Associação Regantes do Vale do Sado
Engineering	JAOHA
Construction Period	1949
Cost	N/D



Historical Works



Vale do Gaio Dam

Xarrama River, Alcácer do Sal (Portugal)

Description of Work

Dam with an earthfill part, on the upstream side, and a rockfill part on the downstream shoulder. An asphalt sealing curtain was built between them.

Height: 51 m

Crest length: 368 m

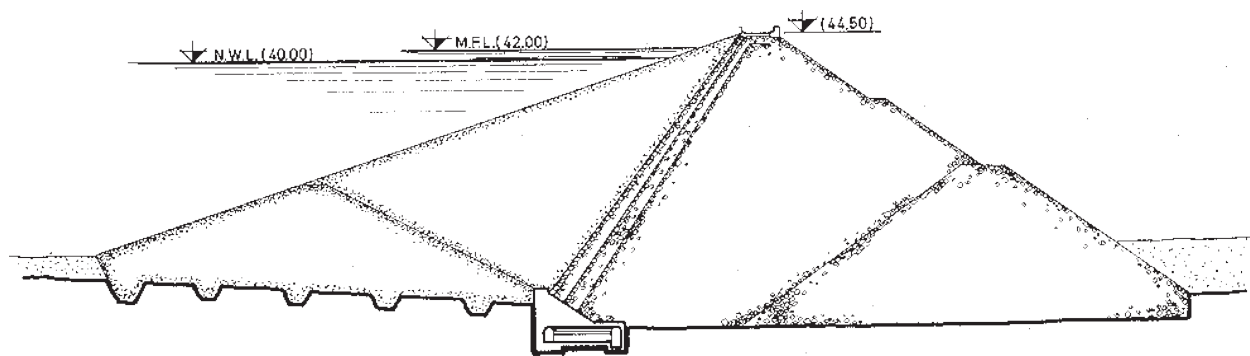
Spillway: Controlled

Dam volume: 636 000 m³

Reservoir: 550 ha / 63 hm³



Project included in the "100 Civil Engineering Works of the 20th Century" selection by the Portuguese Order of Engineers.



Cross Section

Work Summary

Client	Associação Regantes do Vale do Sado
Engineering	Engº Augusto Poppe
Construction Period	1949
Cost	N/D





Historical Works



Marechal Carmona Bridge

Tagus River, Vila Franca de Xira (Portugal)

Description of Work

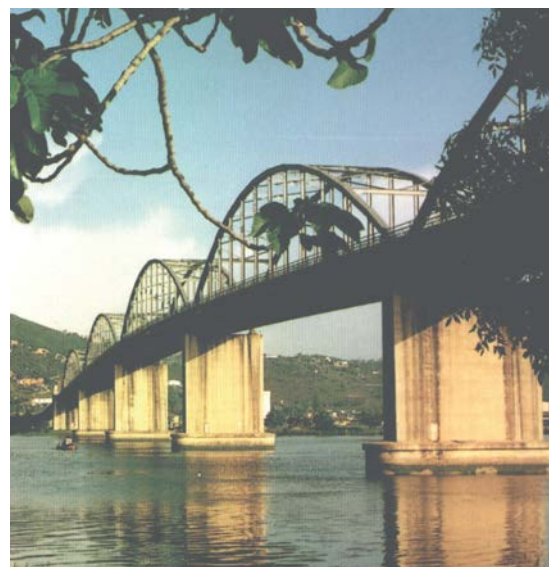
5-span steel deck bridge, supported by reinforced concrete pylons. The steel deck is formed by Lang beams, with straight lower flanges and a parabolic arch in the upper flange. The foundations are composed by 37 pylons, 4 of which are located in the river and 2 as transition elements between the steel and concrete sections of the bridge.

Geometric data

- Total length, including abutments: 1224 m
- Steel deck: 524 m
- Spans: 5 x 104 m
- Deck width between railings: 12 m

Construction Consortium:

Seth, Lda. + Dorman, Long & Co., Ltd.



Work Summary

Client	JAE / Dir. Serviço de Pontes
Contract Type	Design-construction
Construction Period	1948 – 1951
Cost	PTE 42 000 000,00





Historical Works



Vala Nova Bridge

Benavente, Santarém (Portugal)

Description of Work

First pre-stressed concrete bridge built in Portugal

Concrete bridge with a pre-stressed concrete deck. Designed and built by SETH, whose designing engineer, Mr. Francisco António Manuel Pedroso Bélarde Lebre de Vasconcelos Mello, decided to build the deck with pre-stressed concrete. In the 50s, the pre-stressing of concrete elements was already being used in Portugal for other concrete elements, but never on bridges of any size. The pylons are supported by driven concrete piles with a diameter of 60 cm and an approximate length of 25 m. The pre-stressing was done by the Freyssinet method.



Geometric data

- Total length: 108 mm
- Spans: 3 x 33,8 (aprox.)
- Width between railings: 11,4 m
- Method: Method Freyssinet

Work Summary

Client	JAE / Dir. Serviço de Pontes
Contract Type	Design-construction
Construction Period	1953-1954
Cost	PTE 8.000.000,00

