

FOOTBRIDGE IN THE CAMPUS OF THE UNIVERSITY OF AVEIRO - conception, design and construction -

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Summary

Architectural planning, structural conception, design and construction of the Cycling and Pedestrian Bridge over the salt-marsh of S. Peter, inside the campus of the University of Aveiro, are explained.

Keywords: footbridge; urban planning; structural concept; structural design; shape optimization.

1. Urban and architectural planning

The footbridge shown in Figure 1 was designed by Architect Carrilho da Graça and Structural Engineer Adão da Fonseca / AFAconsult and built in 2003 over the salt-marsh of S. Peter in the Aveiro University Campus. It connects the university departments in the “Santiago” platform with the university main refectory and sport facilities in the “Agra do Castro” platform.



Fig. 1 Perspective of the bridge with low tide in the salt-marsh of S. Peter

These two platforms are not levelled, but the steel bridge platform is horizontal. Although the north end of the bridge is in level with the land platform, an unexpected horizontal ramp into the bridge is provided (Figure 2). The footbridge is 4 m wide and straight along its 324 m length (Figure 3). At the south end, an even more unpredicted lateral reinforced concrete ramp (Figure 4) provides the pathway for wheelchairs and bicycles to the land platform. The abutment at this end contains several staircases leading either to the land platform or to the salt-marsh margin.



Figs 2, 3 and 4 North lateral ramp, footbridge platform and south lateral ramp