

MUNICIPAL LIBRARY AND ARCHIVE OF GRÂNDOLA

2011

Location

Grândola, Portugal

Client

Municipality of Grândola

Estimated Cost

2.6 million EUR

Stage

Public Tender

Area

7500 m²

The shape chosen for the new Municipal Library and Archive building of Grândola was that of a parallelepiped to which matter was occasionally subtracted to make room for courtyards, namely in the entrance, where the main access is located. The building, of approximately 40 m x 32 m, has a total of three storeys: underground level, ground level and first floor.

The roof was worked into a reinterpretation of the dual-pitched roof that is seen in nearly all surrounding buildings. The formal concept

was enriched through the use of the traditional white surfaces of Alentejo, coupled with a more unusual material, cork, also highly characteristic and appropriate from a technical standpoint.

The proposal included the refurbishment of the República Square, articulating it with the new Municipal Library and Archive building. The square was entirely redesigned, lowering its central area in order to create a place where people can stay and read, sheltered from the street traffic.

VIEW OF THE LIBRARY AND ARCHIVE



VIEW FROM THE REPÚBLICA SQUARE



CHILDREN'S SECTION OF THE LIBRARY

MODEL OF THE PROPOSAL





RECEPTION AREA



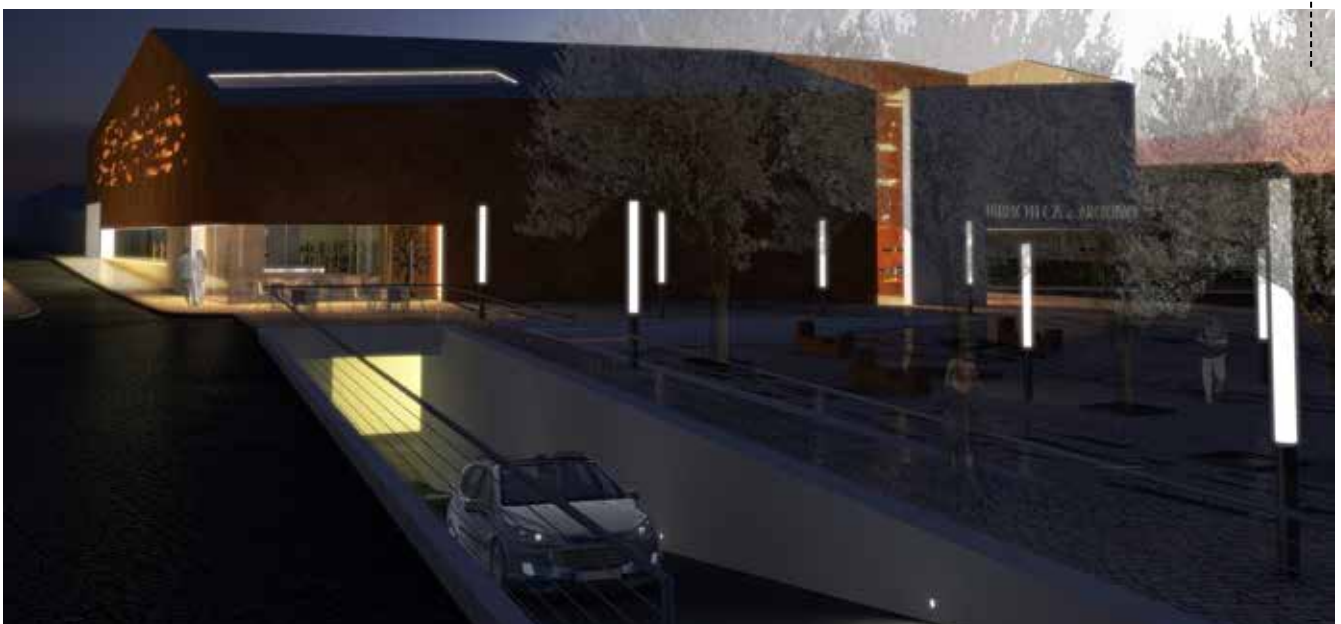
ADULT'S SECTION OF THE LIBRARY

The programme that determined the adopted solution was a consequence of three major factors: the articulation and complementarity of indoor and surrounding spaces; the fulfillment of the proposed initial programme and attainment of full functionality; the implementation of the principles and general guidelines defined by the Portuguese Book and Library Institute (IPLB). The building was structured in three floors, in which the following areas stand out: entrance hall/reception, children's and adult's

sections, bar, loading dock, multipurpose room, exhibition room, archive repository, archive reading room, library repository, conservation and restoration room, and underground car park.

The decision to build a new, striking and contemporary infrastructure that clearly broke away from the lackluster image of the original building, resorting to typically regional materials and shapes, was A1V2's hallmark in this project.

NIGHT VIEW OF THE LIBRARY AND ARCHIVE



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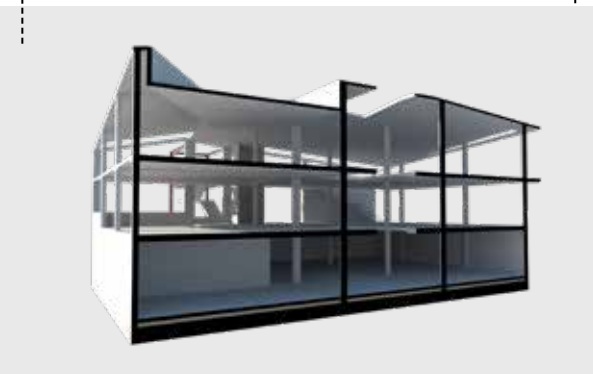
7500 m²

The project involved the design of the new Municipal Library and Archive of Grândola. The proposed building has a rectangular shape, of approximately 40 m x 32 m, and a total of three storeys—underground level, ground and first floor.

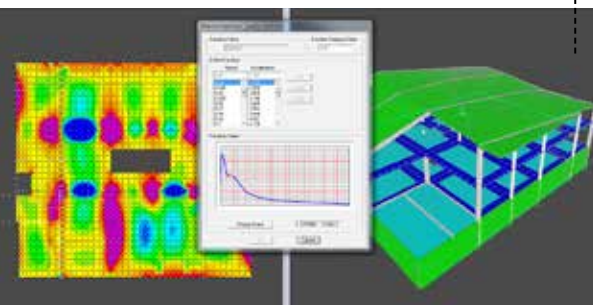
One of the design constraints was related to the need for column-free spaces. As a result, the columns and structural walls are located in the periphery of the building and its accesses. Large span slabs were also introduced.

The structural solution included thicker strips in the slabs, all pre-stressed, with single tendons, unbounded and with a trapezoidal layout.

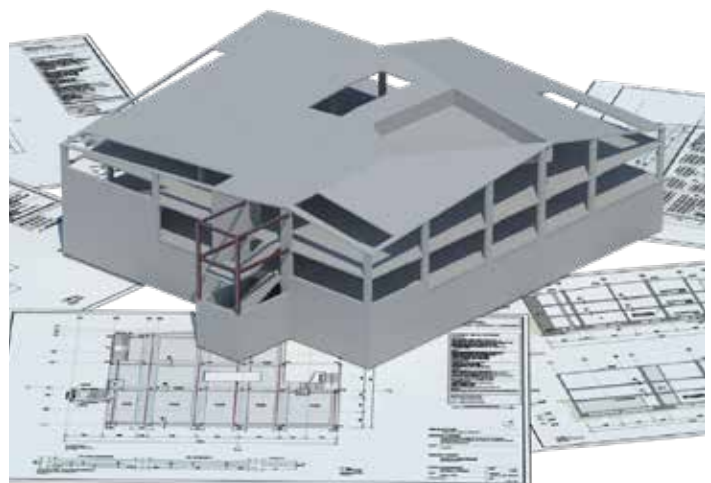
3D PREVIEW – SECTION



FINITE ELEMENT MODEL (SAP 2000)



3D VIEW – STRUCTURE MODEL AND DRAWINGS



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This study is characterised by the fact that the stormwaters from the roof are collected into a network to supply the fire prevention water storage tank.

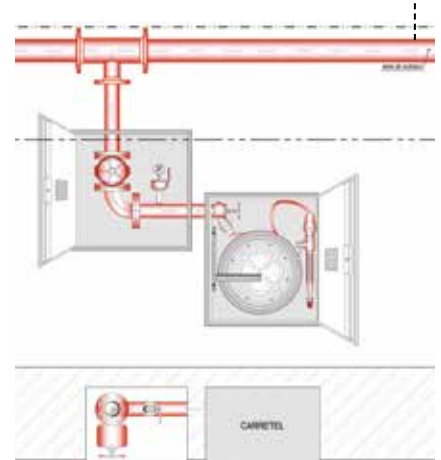
The treatment process for this fire prevention tank includes a filtration process, with sand filter, to remove suspended solids and eliminate insoluble compounds (e.g. iron or manganese), as well as disinfection with sodium hypochlorite (tablet dosing device) to kill vegetative bacteria, certain viruses and certain fungi.

In order to protect the building from water table infiltrations, since part of the building is below ground level, a drainage network for the support walls based on drains was also designed.

LOCATION MAP AND BUILDING MAIN FRONT



STANDARD FIRE HYDRANT SCHEME



STORAGE TANK CROSS-SECTIONS

