

eco-Design OF THE FRENCH EMBASSY IN DOHA (QATAR) - A BIOCLIMATICAL ARCHITECTURE INSIDE A RESTAURED GREEN VALLEY

PUBLIC BUILDING : CONSTRUCTION, HQE® CERTIFIED BY CERWAY

Client Ministry of Foreign Affairs of France

Location Doha (Qatar)

Project Design and build of the french diplomatic campus

Mission MATTA CONTRACTING QATAR, SUD ARCHITECTES, AR ARCHITECTES, TEM PARTNERS, RBS, EUROPTIMA

CONSULTANT

area 5 282 m²

cost 10 500 000 €

Date Wining competition in 2016
Worksite in progress 24-25



Embassy's entrance

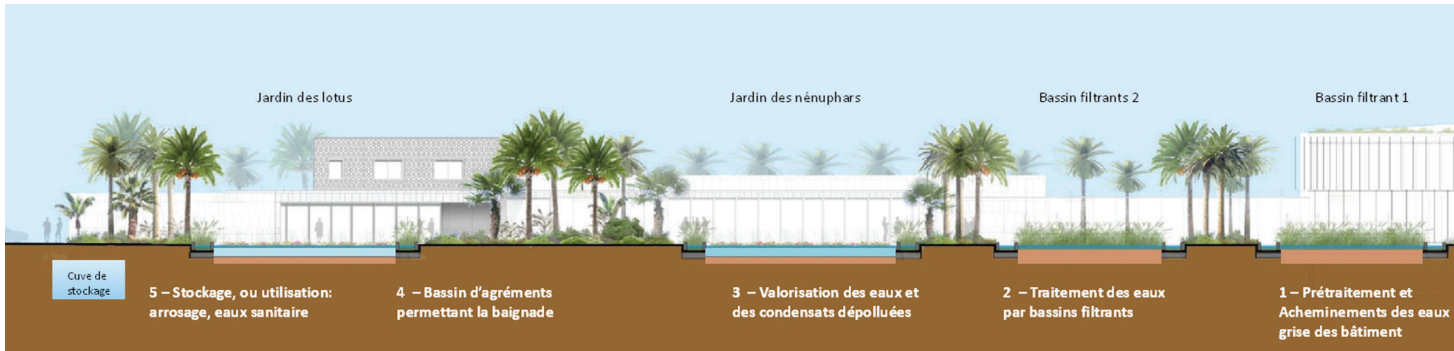
SUD architectes ©



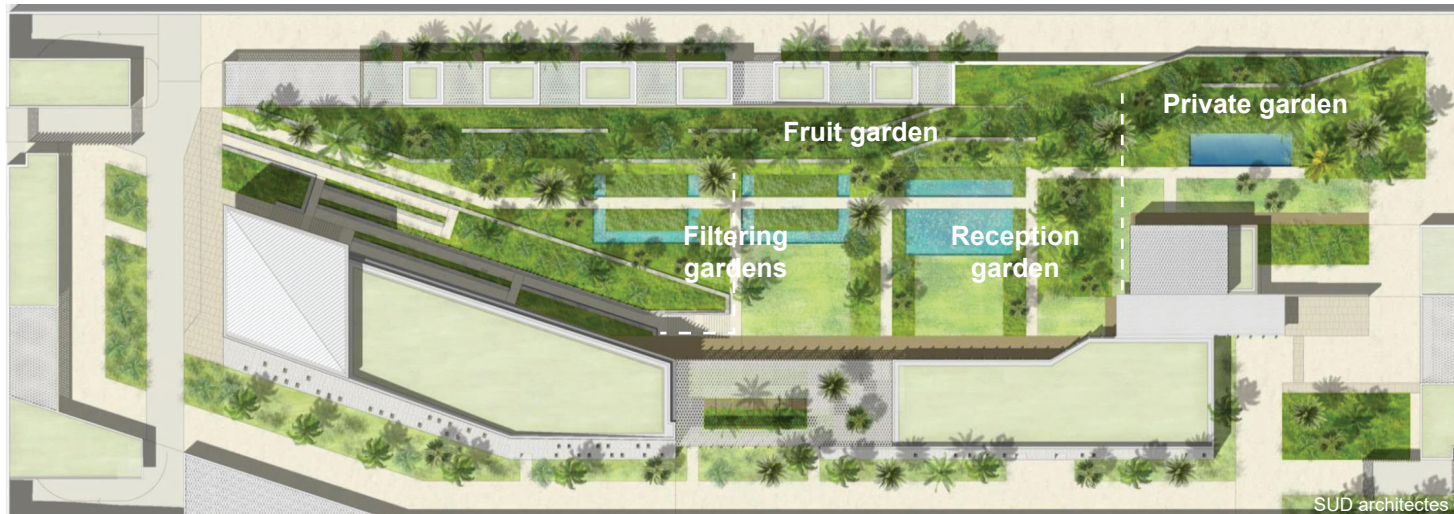
SUD architectes ©

Perspective view of the project

Doha's embassy responds to a strong desire to protect buildings from high temperatures, offering at the same time a pleasant setting, integrated in its environment. The Northern facade is opened on the garden which was designed like a green valley, giving freshness and protection to the buildings. The valley goes from East to West on the plot. It is composed of palm trees and filtering gardens for used water. The landscaping design constantly communicates with the simplicity of the stoned buildings, giving shade, protection and a welcoming atmosphere to the users.



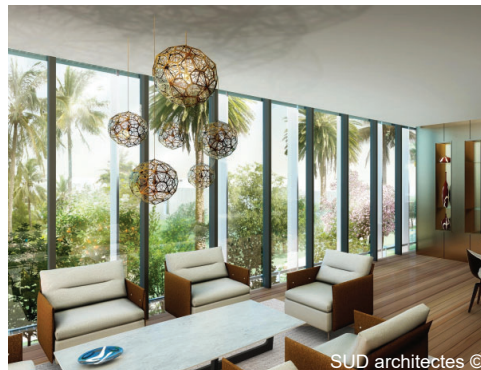
Section showing filtering gardens for grey water



Landscaping mass plan



Entrance of the public residence



Interior of the Ambassador's office



Reception garden

HQE® ACHIEVED TARGETS

TARGET 1: HARMONIOUS RELATIONSHIP BETWEEN THE BUILDING AND ITS ENVIRONMENT

The major idea is to protect buildings from high temperatures, offering at the same time a pleasant design integrated in its environment. Northern Facades are opened on a garden located in the heart of the plot, designed like a green valley bringing freshness and protection.

TARGET 2 : INTEGRATED CHOICES FOR CONSTRUCTION PROCESSES

- **Constructive choices** : sustainability, adaptability and easy maintenance of the materials of construction; design of an earth insulation wall on the South and wooden fiber insulation on the northern facades.

TARGET 4: ENERGY MANAGEMENT

- **Renewable energies** are used for cooling (earth pipeline system).
- Thermodynamic system for hot water.
- Low energy consumption for internal and exterior artificial lighting.

TARGET 5: WATER MANAGEMENT

- Wasted water is treated by **filtering gardens** planted with papyrus, water is then stored into a buried tank, then it is recycled for sanitary use, cleaning and irrigation.
- Exceptional rain water will be collected into **green roofs**; then it will be evaporated and driven into infiltration wells situated close to each building.
- **Porous infrastructure materials** : rain water can easily be infiltrated into the earth.

ENERGY OBJECTIVES

40% less than 50 Kw/m²/year have been achieved regarding 2012 thermal regulation standards.

CERTIFICATIONS

HQE© , Exceptional Level.





Interior of the wall before earth infill



Earth infill of the south wall



Air intake of the Canadian well



Installation of the Canadian well, residential side (AHU 8000 m³/h)



South wall insulated with earth



Rock wool insulation beneath stone cladding



Canadian well duct with a diameter of 800 mm



Air outlet of the Canadian well inside the building, LGF



Internal insulation with wood fiber



General view of the diplomatic campus



Chancellery building