



**Action C7: Prototype
implementation of climate change
adaptation design solutions in a
public building in Balmaseda.
Technical publication**

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This project is part of the project LIFE16 CCA/ES/000040-Good Local Adapt.

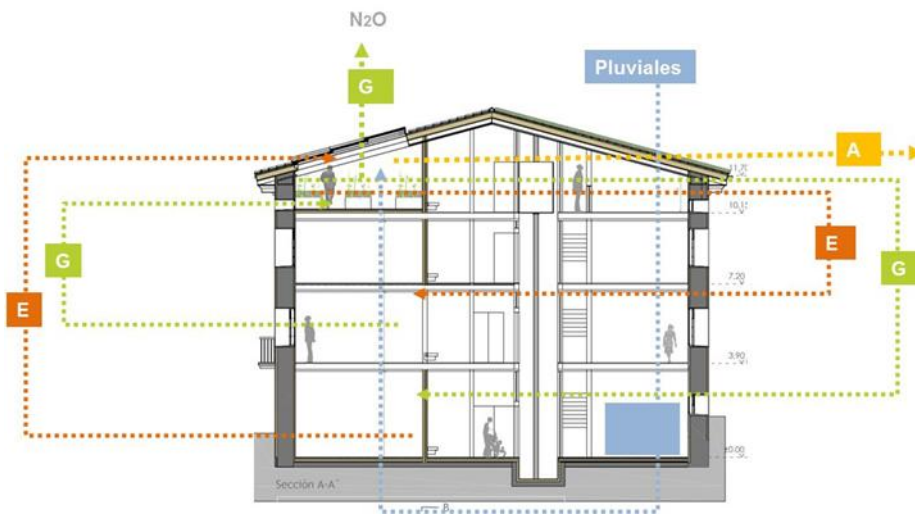
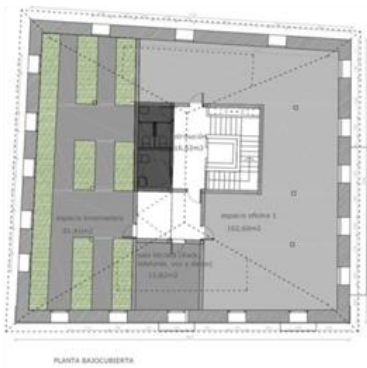


Action C7 provides two Building Execution Projects, for the two buildings selected during the project (the initial one and the second one proposed after cancelling the initial option).

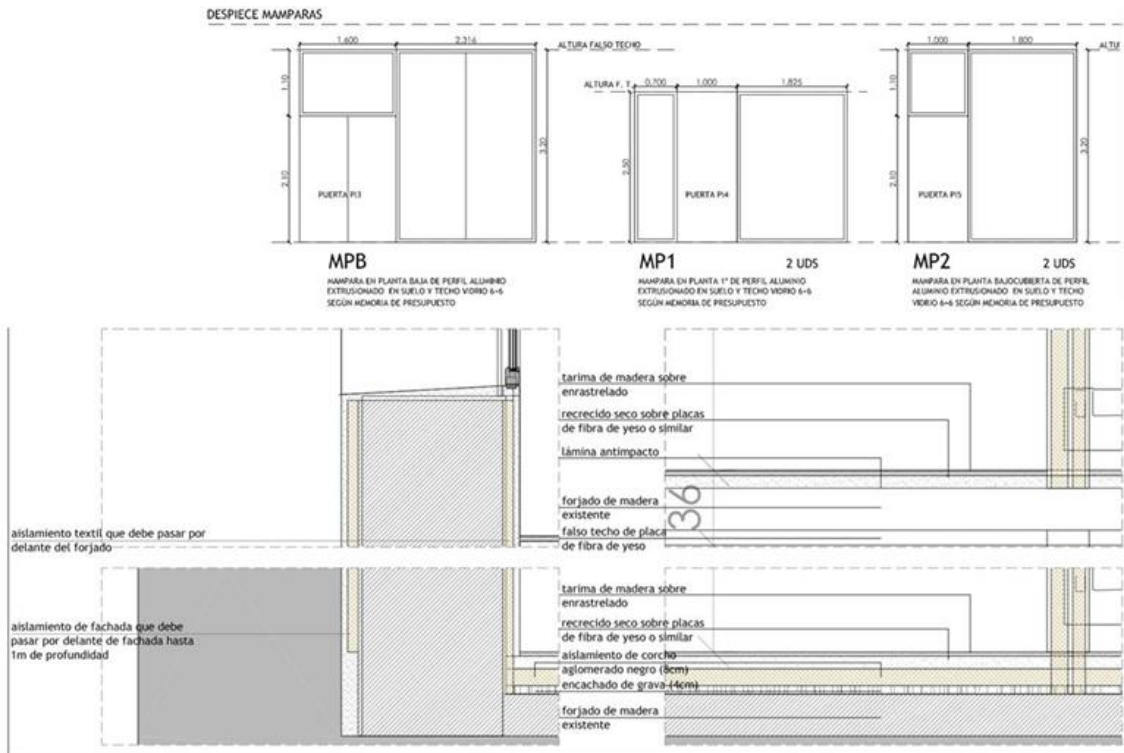
The architectural projects developed for the public buildings in Balmaseda show the flexibility and replicability of this type of solutions.

The solutions implemented in these designs include (i) an integrated under-roof greenhouse built under a mobile skylight, (ii) vegetated roof tiles, (iii) dry construction systems, (iv) urban green infrastructure based on water garden design, (v) cooling sprinkler systems on the roof of the building, and (vi) a rainwater and grey water treatment and reuse system.

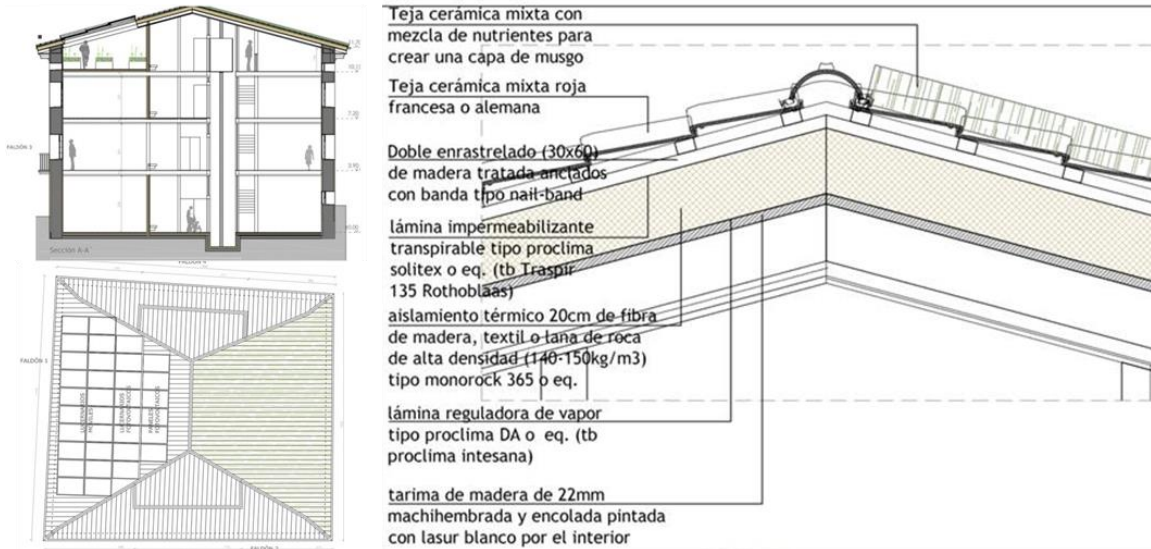
Greenhouse under the roof. The greenhouse contributes, through overheating, to the building's heating system, and the stale air from the office areas feeds the plants in the greenhouse.



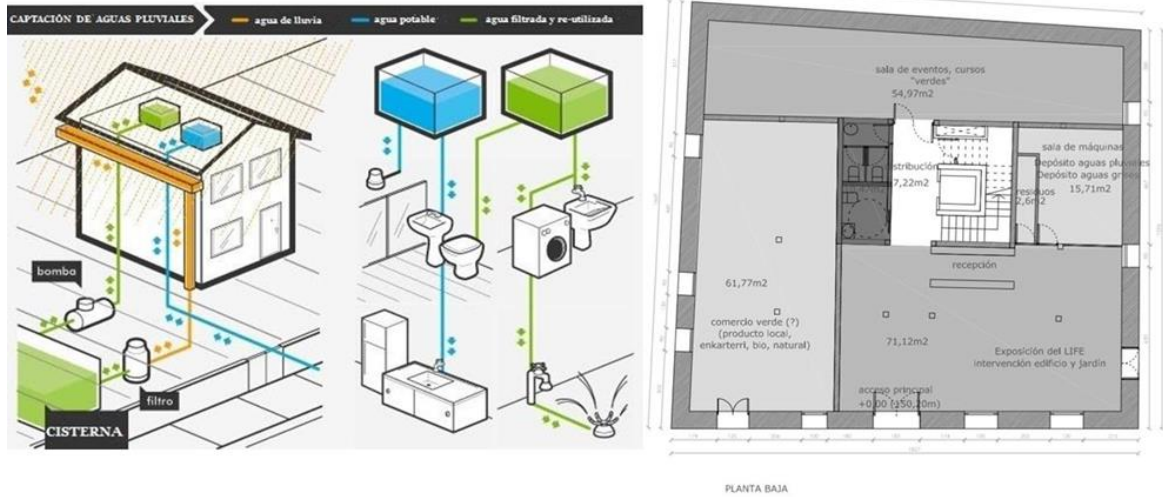
Dry construction systems. The proposed building systems for walls and floors are based on dry construction systems to achieve the goal of zero waste as a solution to climate change adaptation.



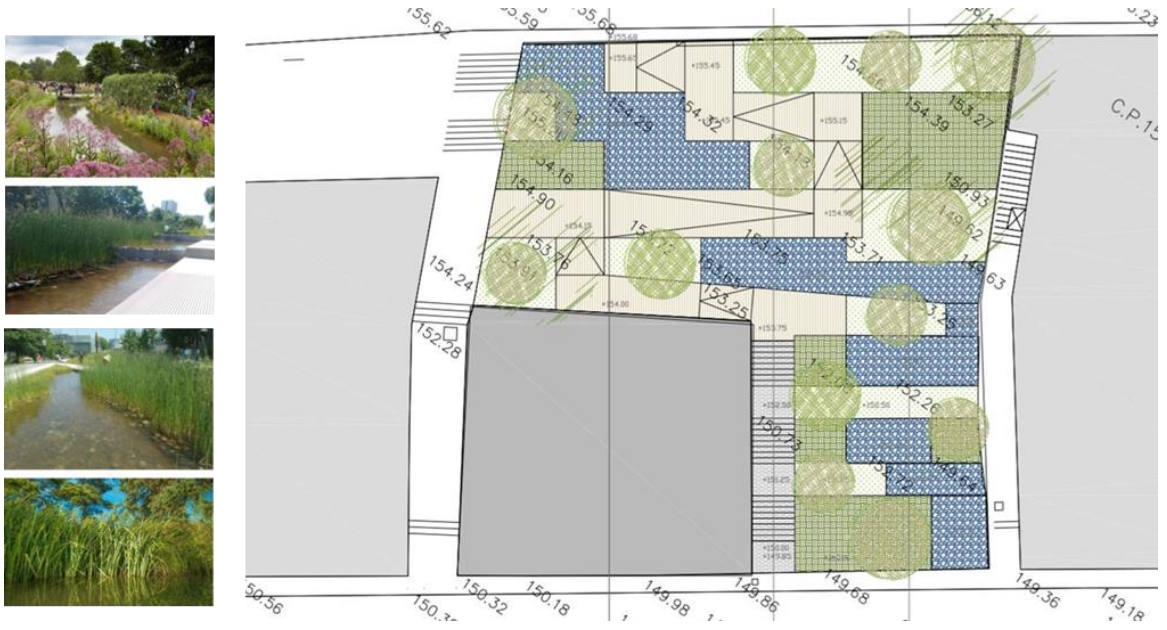
Vegetable roof tiles. This type of roof tile has a new product added at the construction stage that creates a thin layer of moss as a roof finish, contributing to the thermal regulation of the building.



Treatment and reuse of rainwater and grey water. The water treatment tanks are located on the ground floor to reuse the building's grey water and rainwater for reuse in the toilet cisterns, for watering the rooftop greenhouse and for cooling the roof temperature. The following pictures show the scheme of this concept.



Green urban infrastructure integrated into the new garden design. The new design based on water gardens is integrated into the garden next to the building, which includes some urban agriculture points and provides a new green and fresh urban space to the surroundings; as shown in the following image.



Water sprinkling on the roof of the building. To improve the temperature of the roof, a sprinkler irrigation system has been included which, in addition, will water the green roof tiles explained in the previous point.

