

**PROJECT:**

Piana di Castello, Florence

**CLIENT:**

Classified

**ARCHITECTS:**

Richard Rogers Partnership

**BM SERVICES:**

Sustainable Masterplanning

**VALUE:**

Classified

**DESIGN BRIEF**

To develop the sustainable masterplan studies for a new settlement adjacent to an existing airport on the outskirts of Florence. The design was developed from an understanding of site characteristics and climatic conditions.

**DESIGN INITIATIVES/ACTIONS UNDERTAKEN**

A complex, layered masterplan was developed which integrated proposals for water management and conservation, noise attenuation, climate amelioration, ecology and landscape design.

The water strategy for the site was an integral part of the landscape design. Change of use from agricultural to large areas of hard surfaces would concentrate surface water run off. To prevent flooding down stream, courtyards and meadows were designed to flood seasonally, attenuating surface water run off during heavy rain and porous surfaces incorporated to allow the ground water to be recharged.

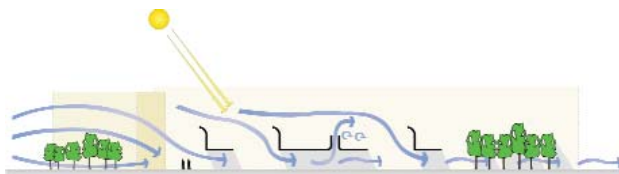
A proposed 2 hectare lake would be sustained by rainfall with a further 4 hectares of wetland habitat sustained by the treatment of waste water produced by the completed development. Treated through a series of ponds, the clean water would be allowed to filter into the groundwater via bio-swales and wet meadows which would also provide ecological habitat.

Landform was incorporated to attenuate noise from aircraft with tree planting to provide shelter from the new road north of the development and existing infrastructure to the east. Plant material was selected for its year round protection.

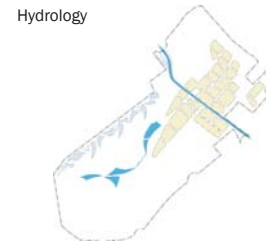
The combination of landform and woodland planting was designed to harvest prevailing south westerly breezes and channel them into the new development. The breezes would be cooled by passing over newly created lakes. Planting inside courtyards was designed to maintain captured breezes at pedestrian level and to further reduce ambient temperatures by up to 5 °C through shading and transpiration.



Landscape Masterplan



Climate Response - Wind



Hydrology



Noise



Breeze harvesting



Ecology



Zoning

Landscape Synthesis

The landscape design of the new park and the spaces between buildings comprised a predominance of locally native trees and shrubs, managed to provide a significantly richer wildlife habitat than currently exists. Three habitat types would be fostered including woodland, managed grassland and wetland, with opportunities for 'green links' to the River Arno, city and hillside habitats.

The landscape was zoned in response to noise pollution. Non-noise sensitive uses were located adjacent to the airport boundary, where waste water from the development would be treated in a restricted access area. The noise barrier zone of landforms and dense planting provides screening to airport noise and the treatment works as well as a recreational area for walking, jogging and contact with nature. The lawn and wildflower parkland was designed to contain localised undulations for noise amelioration and would be screened from the existing road noise to the east.



Artist Impression