

vitamin green

PHAIDON

A Forest for a Moon Dazzler is built with timber cleared from its site and more than 4,000 pieces of threaded bamboo naturally ventilate and shade the building.

**Benjamin
Garcia Saxe**
—
**Guanacaste,
Costa Rica**
—
2010

The bamboo used for the walls was cut into pieces and finished so that it could be pieced together to form the facade, allowing in air and light.

The house designed and built by architect Benjamin Garcia Saxe, *A Forest for a Moon Dazzler*, was made for his mother, Helen Saxe Fernandez. After many years of urban life, Saxe Fernandez wanted to return to the rural lifestyle of her youth. She bought a piece of forested land and lived there, initially in a shack she built for herself from scrap wood, corrugated tin and plastic bags.

The elegant and simple house Garcia Saxe built to replace the shack is set on a rectangular concrete pad foundation. It includes two identical living modules positioned either side of a central courtyard, which is open to the sky. The structural frame for each living module is galvanized steel columns and beams with thin steel wire stretched horizontally between them. More than 4,000 pieces of bamboo, each 15 cm (6 in) long, have been threaded on this wire, creating a cage that provides a secure compound for Mrs Saxe Fernandez's belongings without resorting to solid walls. The bamboo provides a degree of privacy while allowing the warm Costa Rican coastal breezes to percolate through the space.

Materials for the project were all sourced locally. The bamboo was cut from a nearby farm, submerged in diesel to cure and then dried on the site of the house. Once cut to size, the bamboo was finished with a maritime varnish. Corrugated steel sheets, a common building material in the area, were painted in non-corrosive white paint and used as the roof covering. The timber used for the walls, window shutters, floors and terrace was all cut from trees that were cleared from the site, which was once a teak tree plantation.

The house has only rudimentary fixtures and fittings, as is the want of its owner, whose main concerns were to be able to relax in tranquil solitude, watching the shadows that her bamboo walls play across the floor during the day and gazing at the moon and stars at night. The bathroom is also simple: a rainwater collection tank installed at high level serves the kitchen sink, the shower and the WC through a gravity feed. Waste

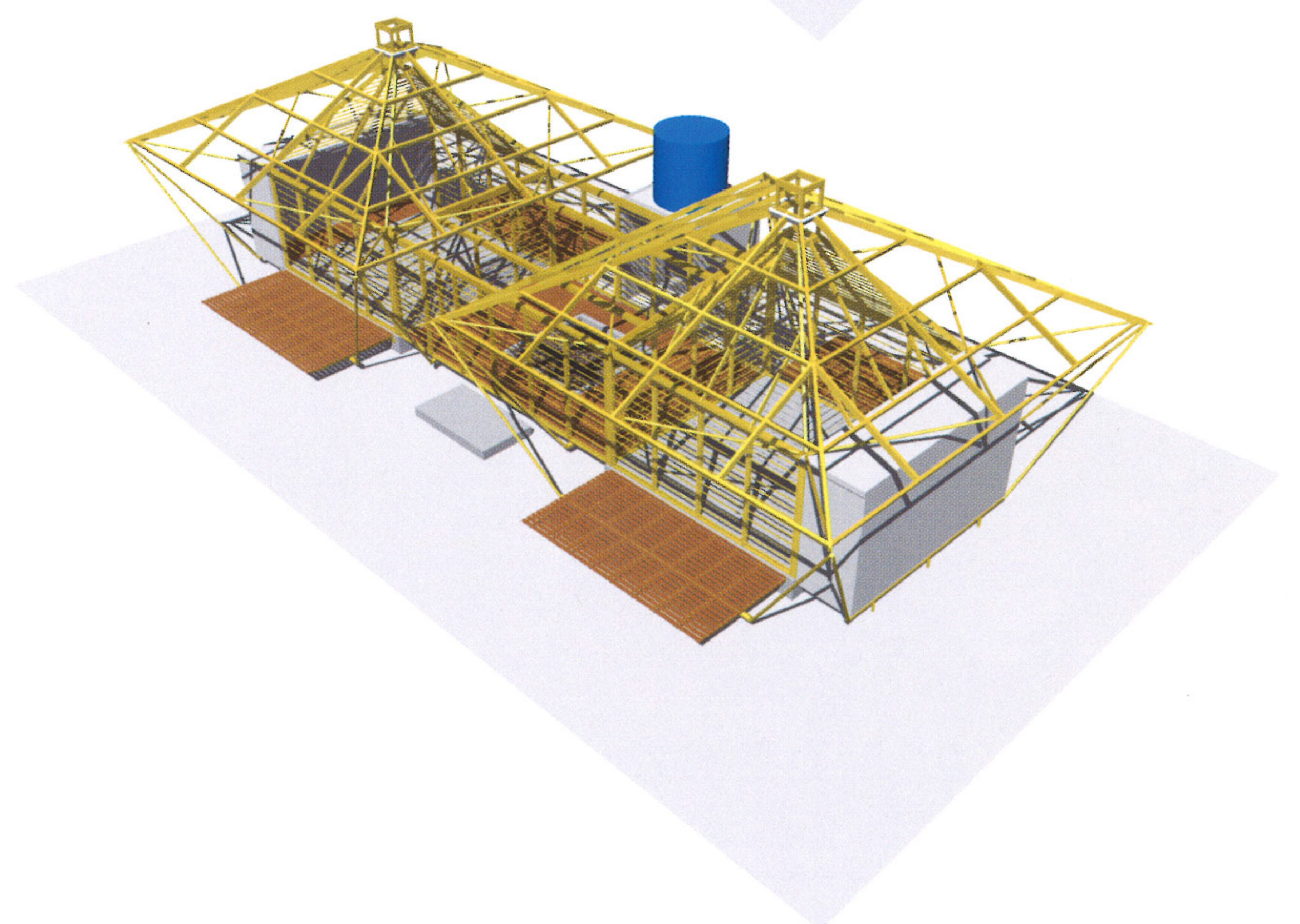
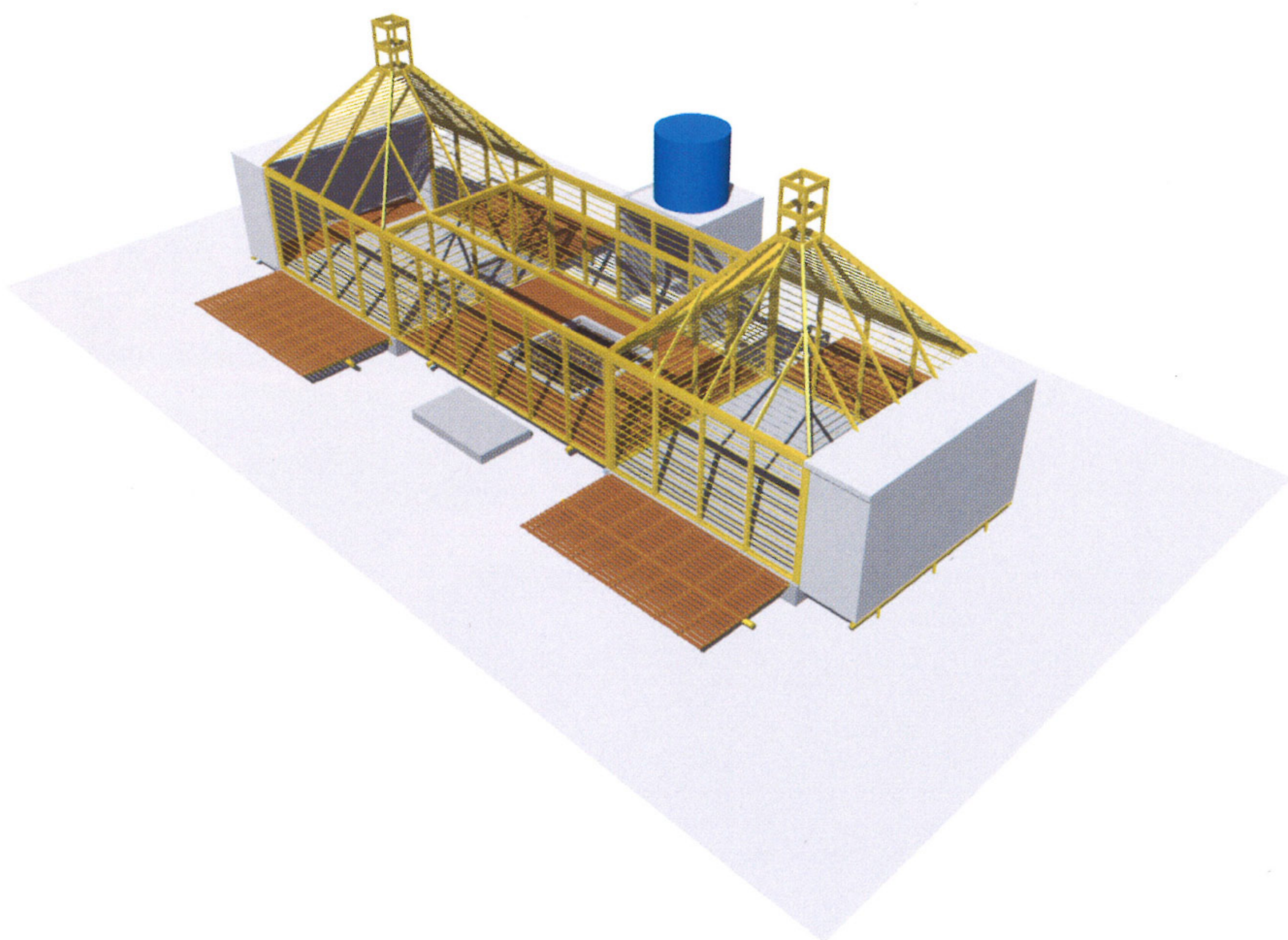
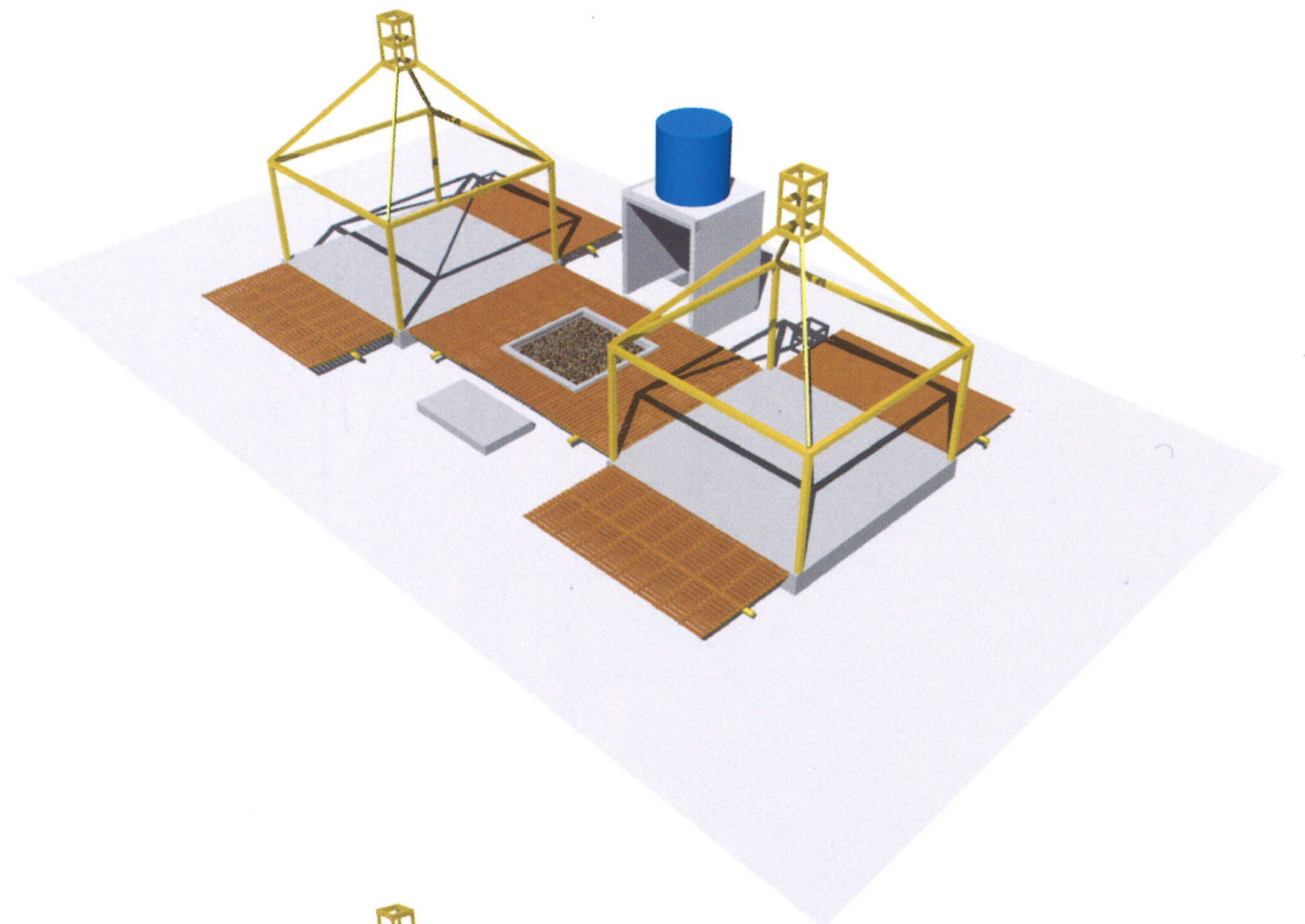
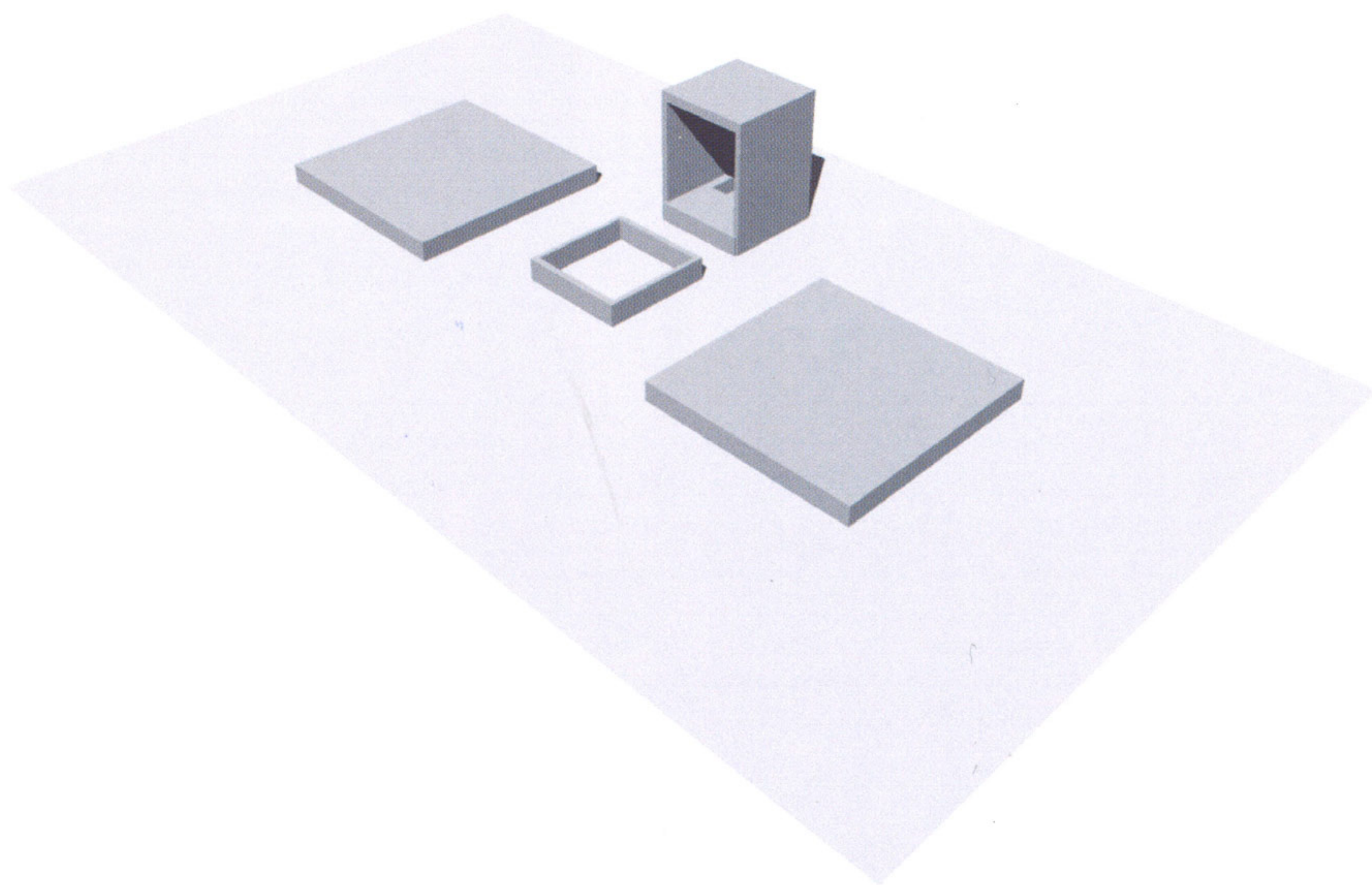
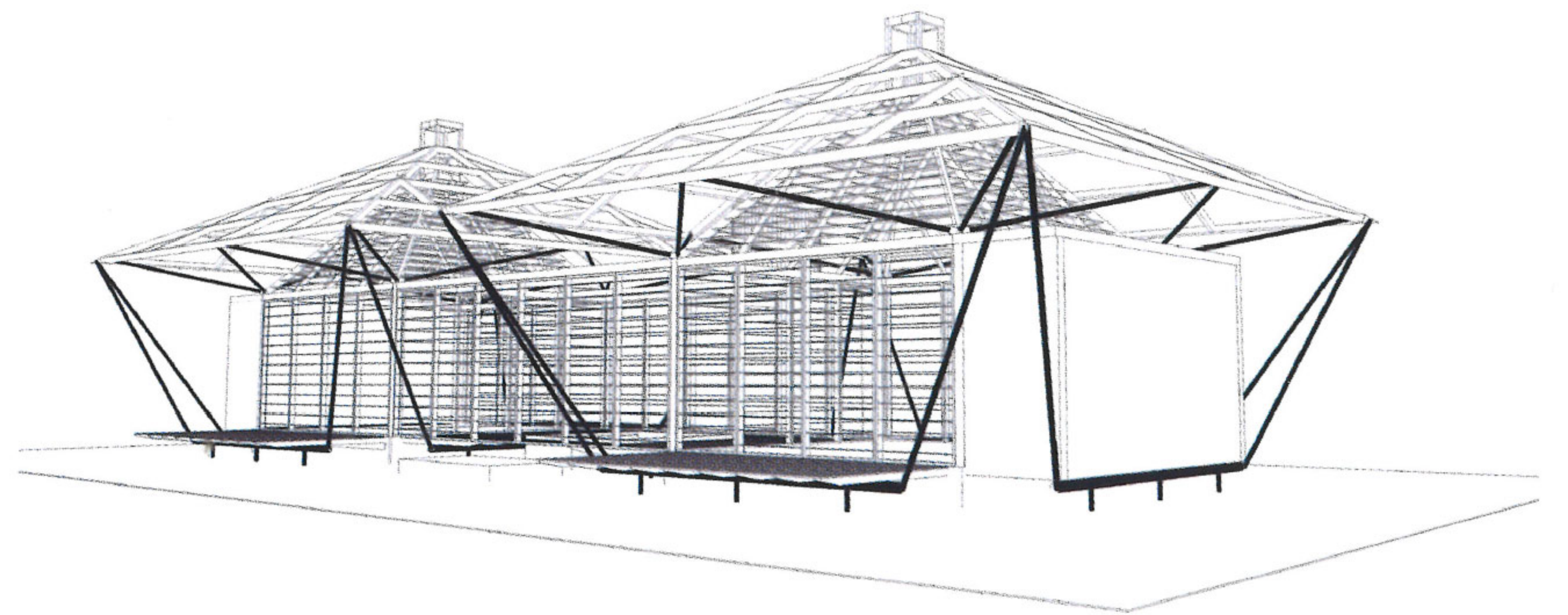
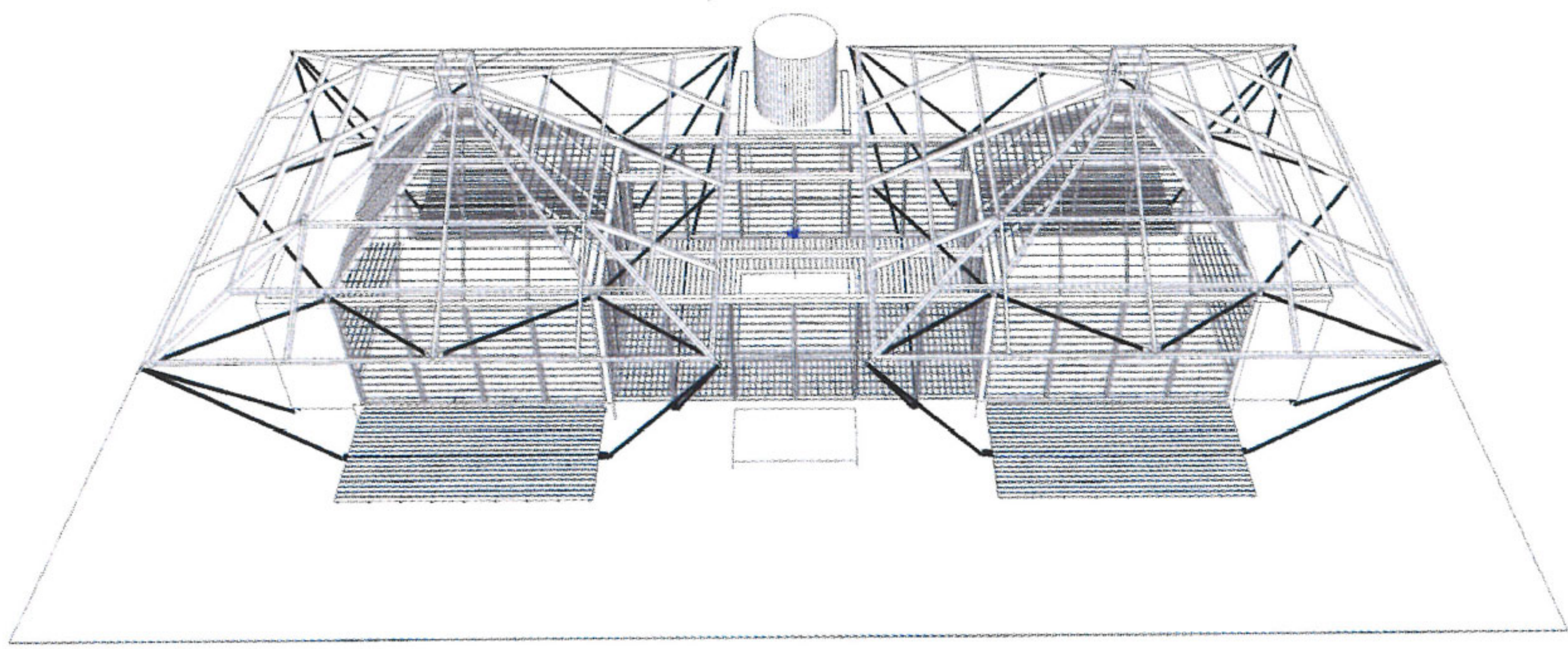
from the kitchen and bathroom is dealt with via a filtration system using layers of rock of decreasing size, buried in an adjacent field.

The house epitomizes a passive sustainable design that perfectly fits the environment in which it is located. The permeability of the bamboo walls allows for natural ventilation to keep the interior cool at all times. Sunlight in the early morning and late afternoon shines directly into the home, bathing it in a warm glow and abolishing any chill from the night. As the sun gets higher and the day hotter, the large overhang of the corrugated steel roof shades the interior. A well-ventilated gap between the underside of the roof and the internal walls ensures that heat conducted through the corrugated sheet is blown away on the breeze.

The central courtyard acts as a semi-private outdoor space: an area for its owner to sit in the evenings. Unlike the two living modules it has no wooden floor covering. The floor is bare earth, into which Saxe Fernandez has planted an aloe vera bush. A large rock serves as a seat on which she sits while making long phone calls to her sons. Constructed from steel, bamboo and timber, the house was easy to build and very inexpensive, as well as a beautiful living space for Saxe Fernandez. The cost of building each living module was £12,500 (\$20,000); with two modules the total cost of the house was approximately £25,000 (\$40,000).

In addition to changing Saxe Fernandez's life, the home her son designed for her is an environmentally efficient system with far-reaching potential. The living modules are easily replicable: they can be added to or multiplied to create an array of configurations, extending the internal space and making the building adaptable to different sites and purposes. While this won't be necessary for his mother's home, Garcia Saxe has since been approached by several people and government agencies interested in using his living module design to create low-cost housing in developing countries and in building public schools in deprived areas of Latin America. *Will Jones*







Rainwater is collected, stored and used in the house. The skeleton of the building has two main enclosed spaces and a courtyard in between (opposite). The porous facade facilitates air circulation through the home (top) and allows the home to glow at night (bottom).

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