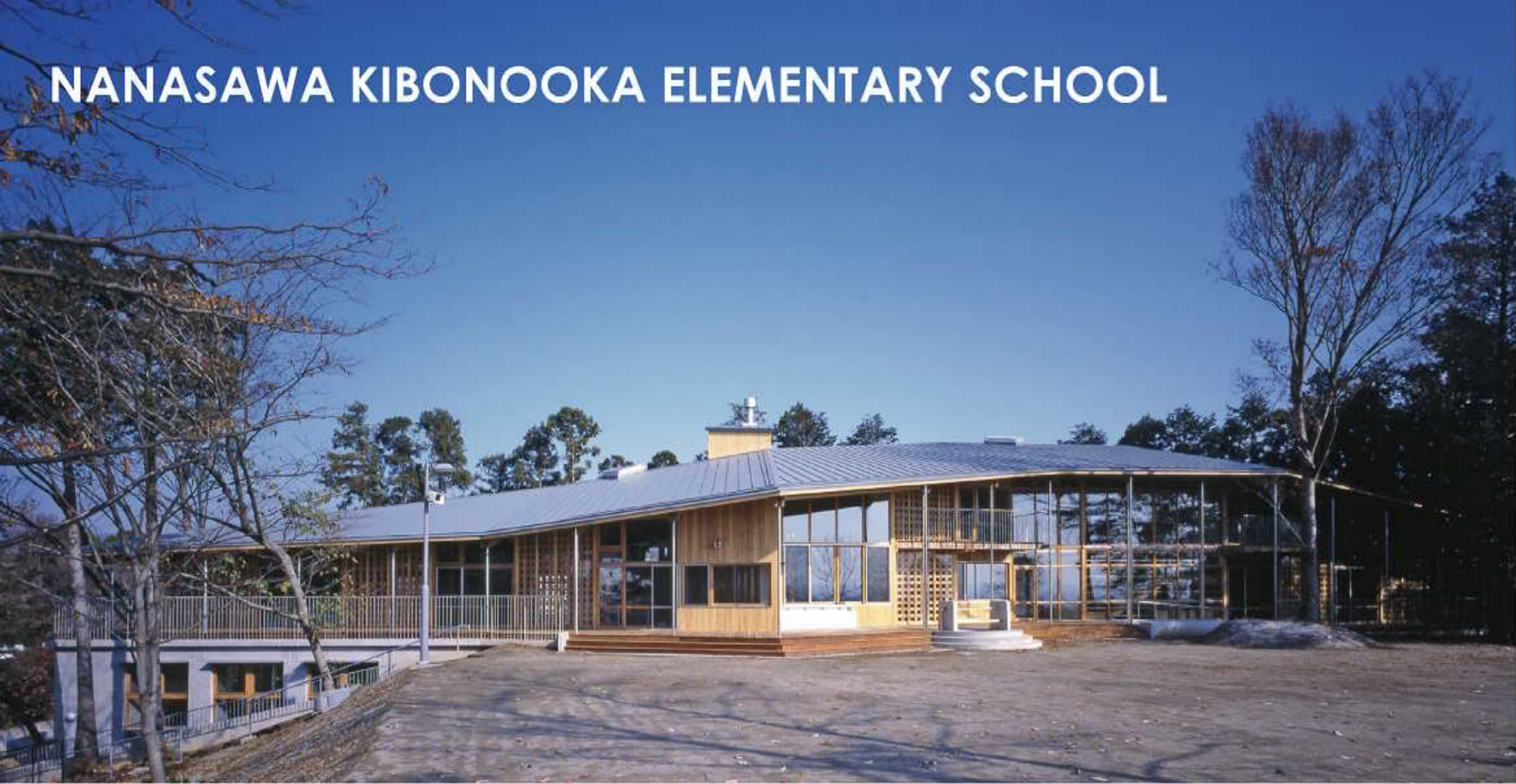


# NANASAWA KIBONOOKA ELEMENTARY SCHOOL



Nanasawa Kibonooka Elementary School is located in Kanagawa Prefecture's "satoyama", the intermediate zone of forested foothills between the mountains and arable flat land.

Building materials, energy, rain-water, gray-water, and other waste materials create a micro-ecosystem, originating within the site and returning to it. The architect believes independent and self-sufficient buildings, such as this school, can become models for public buildings in provincial cities.

### Concept

1. Creating versatile educational space, while maintaining the character and biodiversity of satoyama.
2. Creating environmental architecture sensitive to satoyama that makes the most of local microclimate.

It is a small school of 120 pupils; the children are encouraged to intermingle beyond the frame of their own school year. A sense of collaboration and solidarity is fostered by the one roof that covers the whole building.

Four times the plans were adjusted left and right to avoid tree felling and for symbiosis with the satoyama landscape. It was planned to operate as a self-contained environmental cosmos.

Local materials are used for wooden structural parts, fixtures and furnishings.

Fresh air drawn in from the forest is circulated under the floor, heated in hot-cool underground pipes, and by wood-chip biomass boiler, then converted into low temperature radiation floor heating.

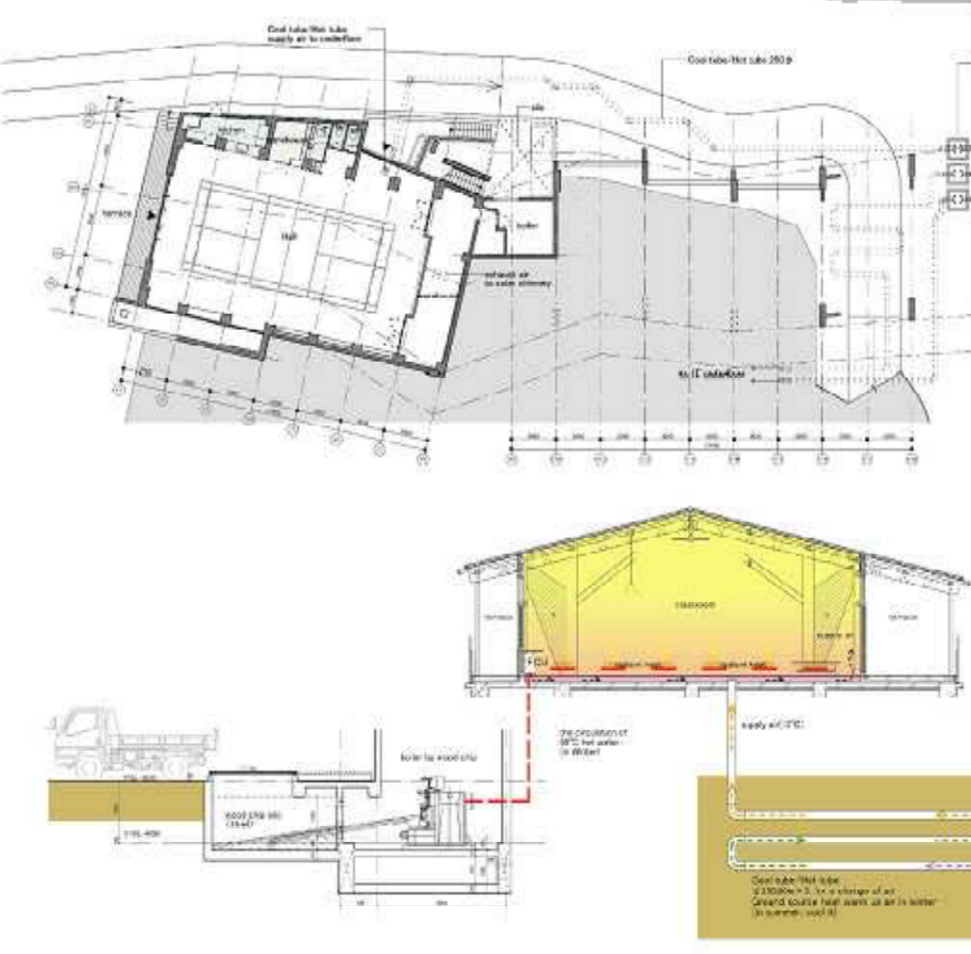
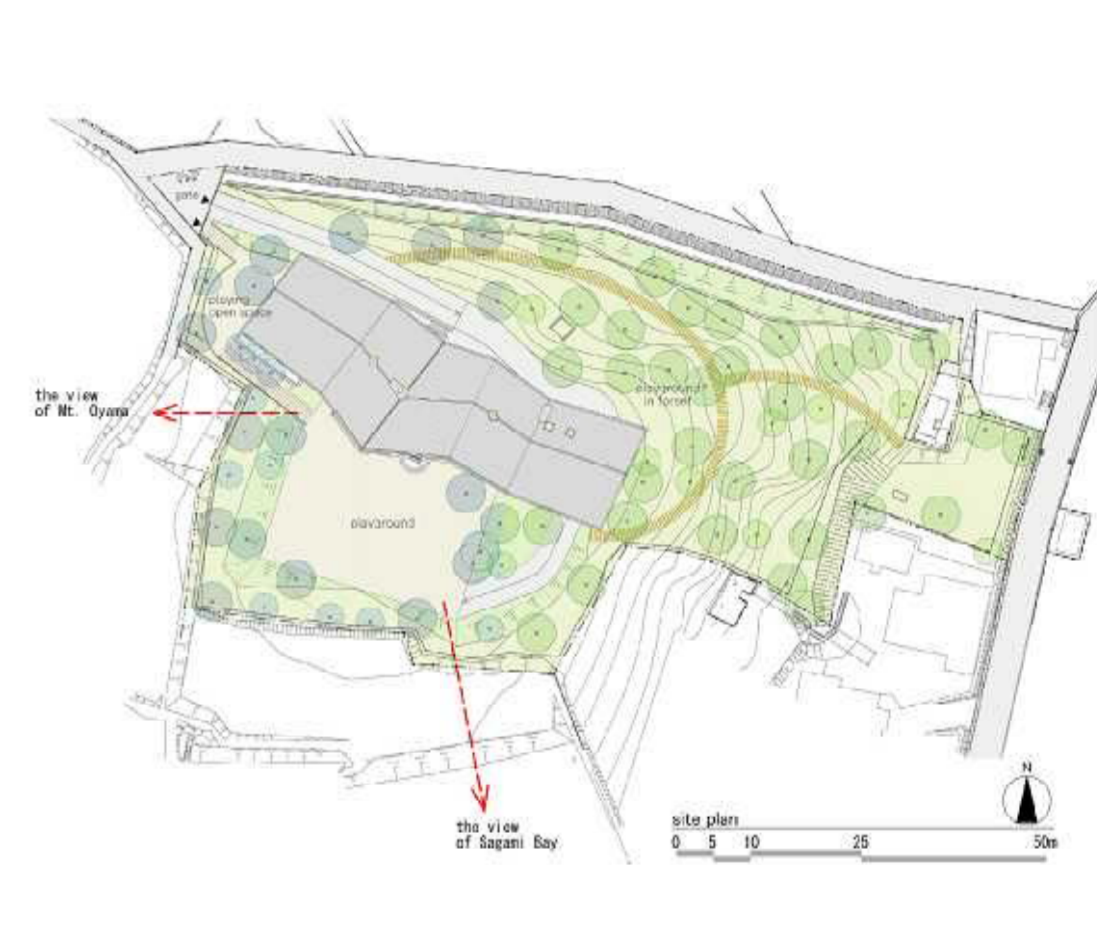
Rooms are ventilated by discharging air naturally using draft power of solar chimneys.

Infiltration of rainwater, sewage is conducted within the compound, avoiding the prevalent dependence on region-wide energy supply and disposal systems. The completed building is an example of zero-carbon environmental architecture foreseeing society in 2050.

As Director (under the auspices of the Architectural Institute of Japan) of "Research Towards Model Cities for Low Carbon Society by the year 2050", the architect, sees two main issues facing Japan: achieving Low Carbon Society in the face of global warming and coping with a decreasing and rapidly aging population.

Due to lower budgets, the Civil Minimum of Infrastructure maintained by local governments will be cut in urban fringe areas. Autonomous network systems of water supply, drainage, waste disposal, roads and other infrastructure may be maintained in urban centres, but fringe areas will be required to self-maintain their own infrastructure.

To cope with this situation, the architect has been appealing for settlements of the future to be "Independent and Self Sufficient in a Small Environmental Cosmos", as per his "Ground Rooted City" concept (Fig. 1). The example set by this work is one to be emulated.



**Project Data**  
 Purpose: Elementary school,  
 Floor space area: 1,229.72sqm  
 Stories: 2 stories building with 1 story basement  
 Structure: Partly wooden, RC structure

