

productive architecture

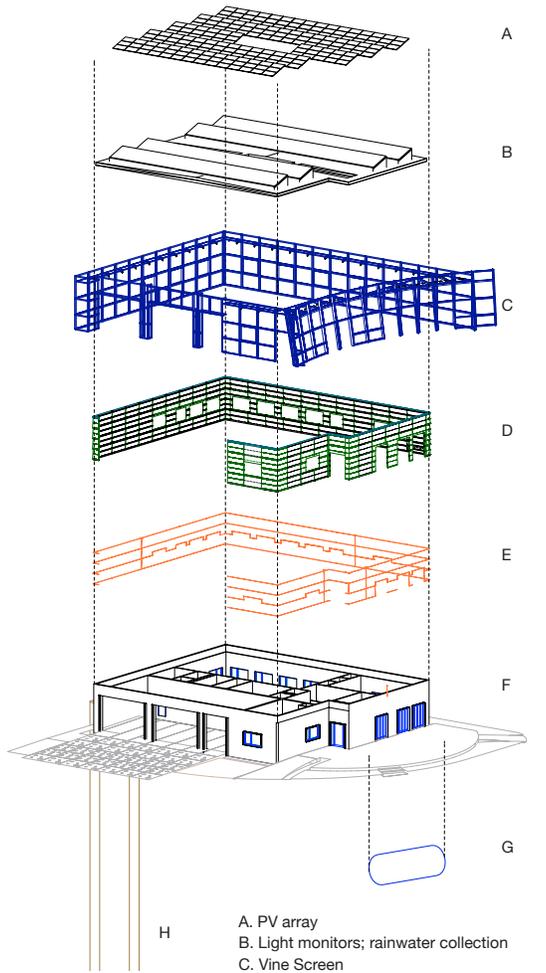
Project Portfolio 2019

Kiss + Partners

Architecture, Planning and Research

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bronx river house



- A. PV array
- B. Light monitors; rainwater collection
- C. Vine Screen
- D. Moss-Experimental wall
- E. Wall irrigation
- F. Autoclaved Aerated Concrete (AAC) shell
- G. Rainwater storage tank
- H. Geothermal wells

The Bronx River House is the base of operations for the restoration and operation of the Bronx River Greenway and the adjacent portion of the Bronx River. The Bronx River Alliance will occupy the building and manage it on behalf of the park and public and community groups.

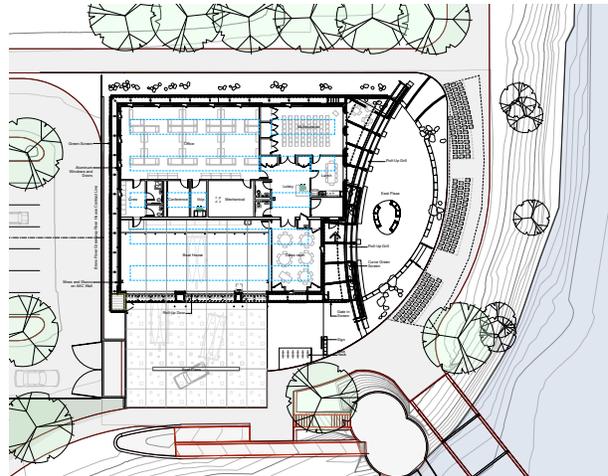
The approximately 7,000 square foot structure includes a boat house capable of storing approximately 30 canoes and 9 kayaks, and other boats. An administrative and office area will accommodate 20 Bronx River Alliance staff. Spaces for use by the public and schools include a nature classroom and a multipurpose community room.

The project is a living part of the park. A screen wall made of galvanized steel and mesh wraps the entire building, providing a secure perimeter, and a surface for vines to grow. The seasonal vines create a favorable microclimate, transpiring water collected from the roof during hot months to significantly lower the air temperature around the building envelope. The vegetated area of the green screens is greater than the footprint of the building, providing as much vegetation as the site would have had in an undeveloped state.

The Client:
NYC Department of Parks and Recreation

The Team:
Kiss + Cathcart, Architects
AG Consulting Engineering
Robert Silman Associates
Starr Whitehouse
Langan Engineering & Environmental Services
Tiatem Engineering
The Gaia Institute

Project Details and Awards:
\$9,000,000
7,000 sf, Construction 2019
NYC Public Design Commission Award





bronx river house



Site

Starlight Park lies at the center of the lower stretch of the Bronx River, between the green of the Bronx Botanical Gardens and Bronx Zoo, and the river's discharge into the East River. This stretch of the Bronx River, long neglected, is being restored by a number of interested groups, including the Bronx River Alliance, who will use River House as a base for environmental programming and educational operations. The river around the project is being turned into a park and Greenway by the New York State Department of Transportation.

Landscape

This building is literally a part of the park. It is clad with a double skin of vines and possibly mosses, a dynamic, vertical extension of the landscape. The green skin changes with the seasons and provides habitat for birds and insects. Because of the high Leaf Area Index of the mosses and vines, the river house site potentially will have as much leaf area (and biological productivity) as the site would have had as a temperate forest.

Materials

The building structure is AAC (Aerated Autoclaved Concrete) block - a lightweight, insulating material, topped with wood trusses and a wood roof. On the outside, the AAC is finished with stucco, and a shingled cement board rain screen to accommodate the moss wall and integrated irrigation system.

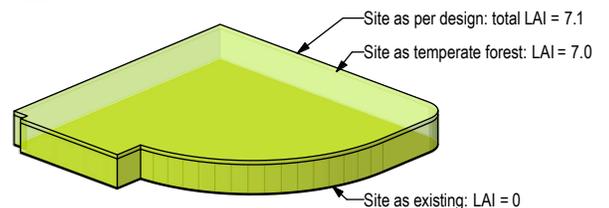
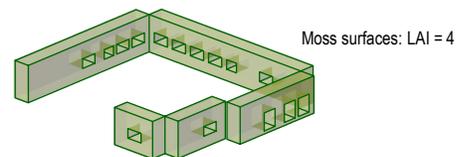
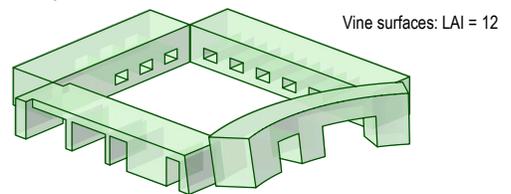


Diagram of the Leaf Area Index (LAI) of the Riverhouse, compared to the LAI of the site in its present state, and if it had been left a natural forest.



Energy

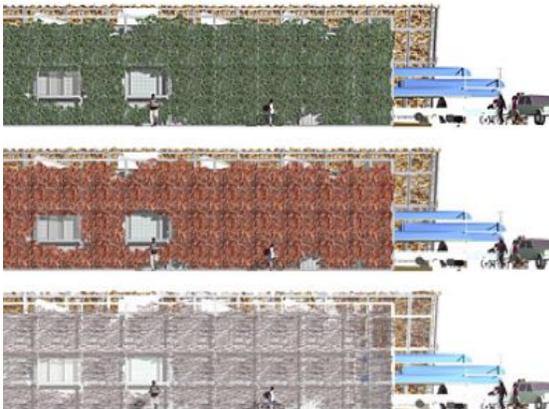
River House uses a number of energy efficiency strategies, including a highly insulating envelope, extensive daylighting, with indirect overhead light and windows seasonally shaded by the vine screen, and a ground source heat pump with radiant floor heating. A 68 kW PV system is mounted on the daylight roof monitors.

Water

All the rainwater will be captured from the roof and used to flush toilets, wash canoes, and irrigate the green screen. This will total over 190,000 gallons of water per year. There will be no portable water use, except for lavatories, showers, and drinking fountains. While most of the surface landscape will not be irrigated, the vertical green screen will be.

Awards

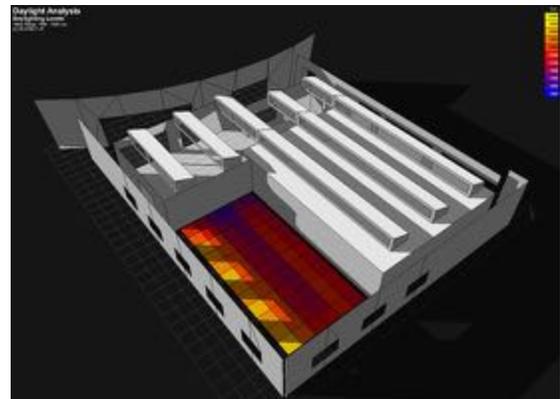
Bronx River House won the 2007 New York City Public Design Commission Award.



To the north of the site, the Bronx River is naturalistic, to the south it is industrial



Rainwater is used on site for a variety of purposes; in normal conditions, none is discharged to the river.



All spaces are daylit from overhead light and seasonally shaded windows.



NYC Public Design Commission Award presented by Mayor Bloomberg, 2007