A photograph of a modern, minimalist house at dusk. The house features a large, overhanging roof structure on the left side, supported by a thick pillar. The interior is visible through large glass windows and doors, showing a bright, modern interior with a desk and a chair. A swimming pool is visible in the foreground, reflecting the light from the house and the sky. The sky is a deep blue, and there are palm trees and mountains in the background.

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Iversen Kaplan Residence

Princeton, New Jersey, USA
GARRISON ARCHITECTS

Situated in a heavily wooded area of Princeton, New Jersey, this project involved an addition to a late-modern home with vernacular influences. The existing 5000-square-foot (465-square-meter) house was turned inward, with little relationship to its natural surroundings. The project involved the design and construction of a 4000-square-foot (370-square-meter) addition that would allow nature and the existing structure to interact. Limited by the foliage of the surrounding forest, oblique sunlight was introduced through the horizontal glazing. A system of operable skylights set above a hot air reservoir works in conjunction with an internal light-diffusing layer, both to distribute light and to induce ventilation through buoyant air movement.

The residence embraces sustainability through whole building design. It incorporates building orientation, energy efficiency, sustainable material choices, and a passive ventilation system. The materials used in the house have all been subjected to a comprehensive evaluation that includes embodied energy (all of the energy required for material extraction, movement, production, and fabrication), operating energy (the energy to operate and maintain the structure), and service duration.

In this project, maple wood was specifically selected for its density and durability, which lent well to the design and final look of the home. In addition, the wood was harvested regionally and is an indigenous species to the area. The inclusion of resin panels in the design was again to provide a durable and stable light source through light-diffusing panels. Approximately 40 percent of the materials used to construct the panels were recycled and processed in an ecologically controlled manufacturing facility.

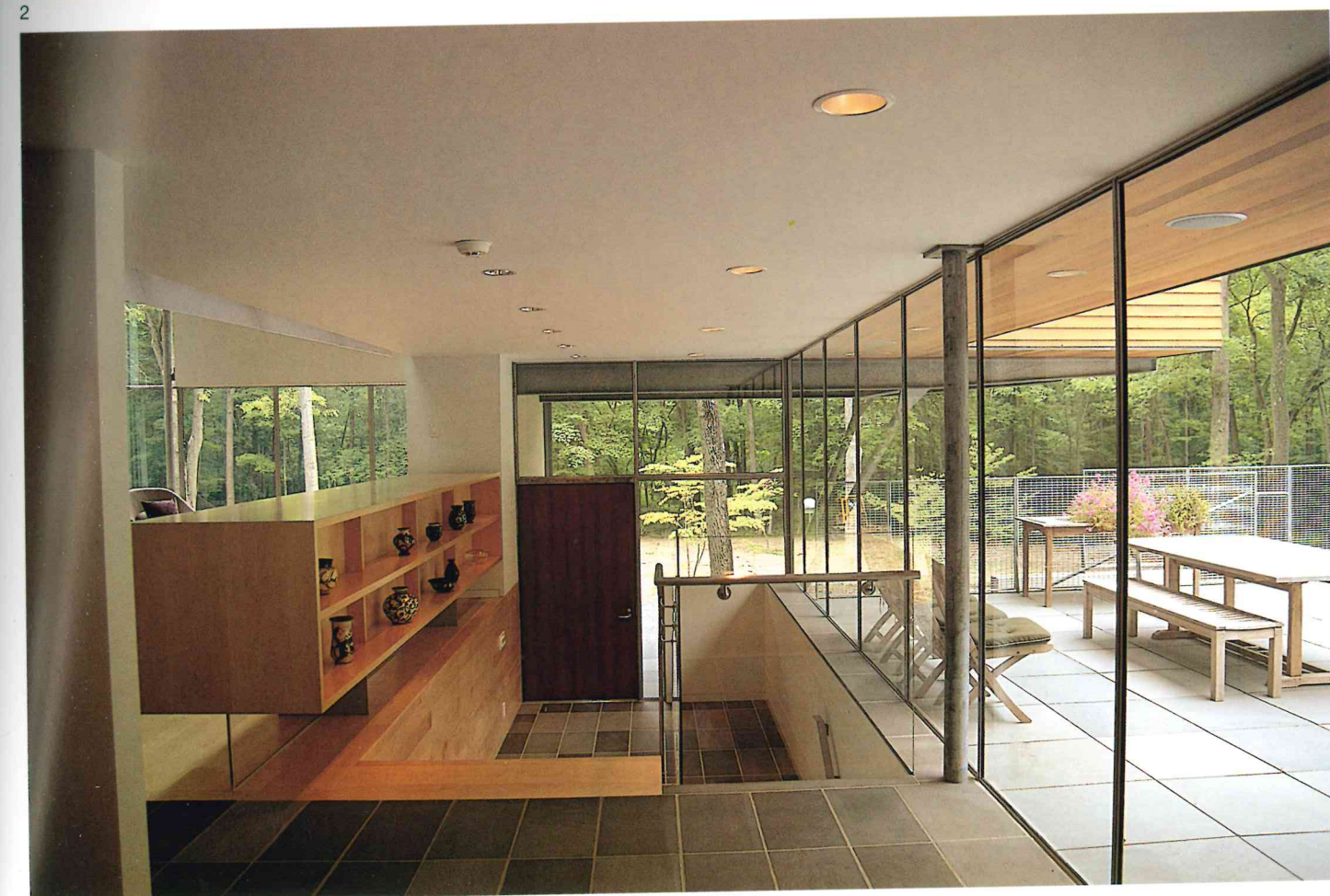
The steel windows installed have more than double the lifecycle of wood or aluminum and are low embodied energy (low-e). This particular style is made from highly recycled material, an environmentally responsible feature, important to both the architect and owner. The choice of bluestone and jet mist granite was due to the stone's density and durability, in addition to being regionally quarried and fabricated. The laminated, low-e glass provides large panes and no seal breakage, reducing the infiltration and thermal loss through metal.

- 1 Living room and dining room
 - 2 View of the master bedroom cantilevered over the entry
 - 3 View of the entry vestibule, looking out at courtyard
 - 4 Support strut at the entrance
- Photography: courtesy Garrison Architects





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