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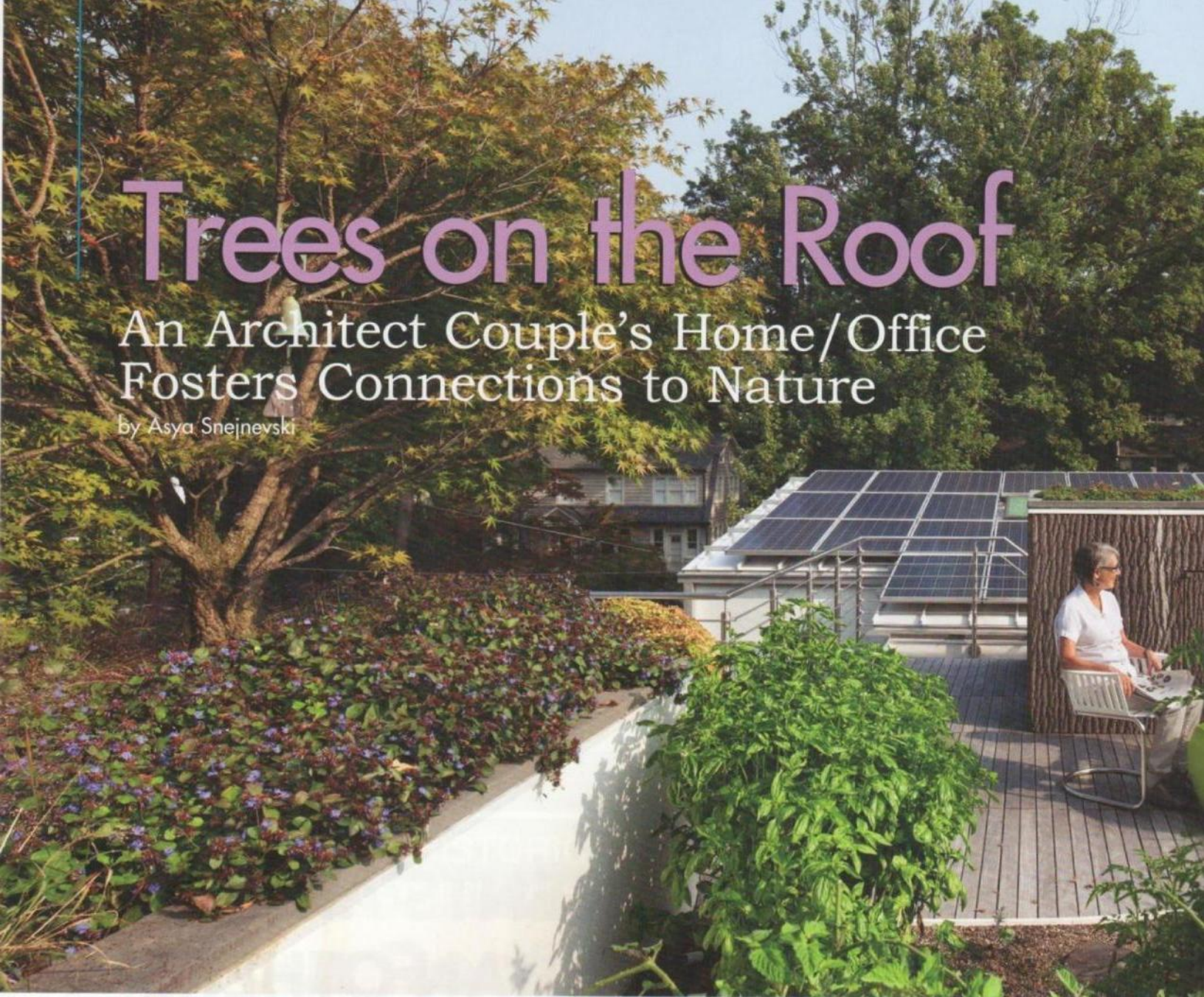
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Ranch Renovation Reflects Universal Design Principles
Architects' Home/Office Communes with Nature
Bridge-Like Country House Spans Geological Gap
Micro-unit Apartments Exemplify Efficiency

Trees on the Roof

An Architect Couple's Home/Office
Fosters Connections to Nature

by Asya Snejneviski



The roof of the house could easily be mistaken for a ground-level garden.

The house as seen from the street.



Dining room, with the kitchen island.
Note the glass panels in the ceiling,
which admit daylight to the interior.





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What would any architect couple do when it came time to renovate their own house? Take many of the innovative ideas they had come up with over the years and incorporate them into the design, of course!

The architects, and clients in this case, **Marcie Meditch, AIA**, and **John Dennis Murphey, AIA**, of **Meditch Murphey Architects**, are avid travelers, nature lovers, and designers. In this project they wanted to combine aspects from all of their passions to create a simple, modern dream home, just about a mile north of Washington, DC—a sustainable building that would also accommodate their architectural office while keeping them connected to the outdoors, bringing the outside in.

Using a “simple, restrained palette,” in John Murphey’s words, was key to having a house that focused on what mattered most to them: “the spaces, the views, and the light.” While the house fits in to the Chevy Chase community, it also evokes modern residential architecture in such places as California, Chile, and even South Africa, according to what the couple’s neighbors say. As world travelers, Meditch and Murphey wanted to incorporate experiences from their adventures into their own home. Instead of “refrigerator magnets,” says Murphey, “we tend to pick up ideas.”

Inspired by Portuguese modern architect Alvaro Siza, who has designed buildings all over the world, Meditch and Murphey decided to stick to simple materials: concrete, stone, stucco, and wood. Inside, rooms are generally white, but distinguished by bold color accents. In order to utilize the space to its maximum potential, the architects also wanted to make sure that the interior could be changed if the need arose. The main examples of this flexibility are the easily ADA-adaptable main-level kitchen and bathroom, and the mobile wall on the upper level that can divide a large single room into two smaller rooms. These well thought-out aspects of the plan not only allow short-term adjustments to living arrangements, but also will facilitate future aging-in-place.

Portions of the house’s exterior are covered in tree bark. Meditch and Murphey were inspired by the use of the material in Appalachian State University’s Solar Decathlon entry several years ago, though historically tree bark was often used in this manner for various utilitarian structures. Some Native American tribes built houses clad solely in tree bark, such as Algonquins wigwams made of birch bark and the longhouses that the Iroquois tribe built, each of which would house an entire clan.

Project: Trees on the Roof, Chevy Chase, MD

Architects: **Meditch Murphey Architects**
 Landscape Architects: **Clinton & Associates**
 Structural Engineers: **Linton Engineering**
 Civil Engineers: **CAS Engineering**
 Mechanical Consultants: **Harvey W. Hottel**
 Kitchen Consultants: **Bulthaup**
 Metal Fabricators: **Koppers Fabricators**
 General Contractor: **Design/Build**

The project name, *Trees on the Roof*, stems from the trees and garden that were planted on the roof of the house. "There's no rational reason why it can't be done in this climate," Murphey said about the green roof. "It is a whole landscape that is ignored" in the United States. Creating a functional roof with a garden was specifically inspired by buildings in Guatemala, Berlin, and especially Rome.

The house's numerous outdoor spaces reflect the site's rich ecology and serve, in part, as continuations of the interior living spaces. Gardens on all levels encourage the residents to spend more time outdoors but also give them greater flexibility to stay in or avoid the sun, depending on the balcony and time of day. Native plants were selected for the gardens because of their drought-tolerance and benefits to the local landscape and wildlife. The

roof is home to the only non-native plants, which are those for consumption, including edible greens year-round and seasonal tomato plants.

Using large sliding doors, the architects also brought the outdoors into every space of the building. Even the bathrooms contain elements that hint at nature. The wood slat flooring in the master bathroom with a drain underneath, for instance, creates an entire room that can get wet, but also is reminiscent of the beach and outdoor showers. A tree bark wall in the master bedroom further blurs the distinction between indoors and outdoors.

Environmentally, Meditch and Murphey wanted to create a home that was energy- and water-efficient, and took advantage of natural ventilation and daylighting. Although the new structure replaced an earlier one on the site, the original house was deconstructed and the salvageable materials were donated in hopes that they would be reused in the future.

Hidden from the street by the trees and the roof, a six-kilowatt solar array provides renewable energy to the dwelling while also cooling adjacent spaces in the summertime by creating shade. High-performance, floor-to-ceiling double-pane glass

Living room, with large glass sliding doors that open the space to the outside.



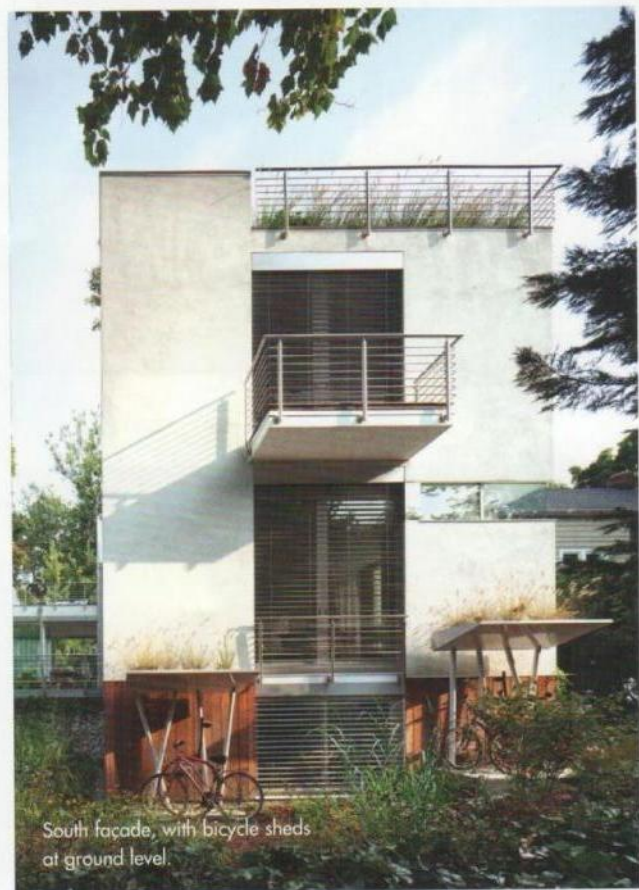
A multi-purpose room on the first floor features clerestory windows that admit ample daylight but limit views in from the outside.



A bathroom with open-plank wood flooring that allows water to drain throughout the room.



A sunny afternoon can provide enough energy through the solar panels to power the owners' electric car, seen at lower left.



South façade, with bicycle sheds at ground level.

windows and doors help insulate the interior and are shielded by computer-controlled exterior blinds, which give additional options for temperature control. Almost every room has natural light that radiates into the space. Even the downstairs multi-purpose family room has glass panels in the ceiling that allow light from upper-level windows to seep into the lowest level.

Naturally occurring cross-ventilation is enhanced by the central staircase, which, through the chimney effect, draws cooler air from the lower levels in and pushes hot air up and out. The high-efficiency HVAC system aids with keeping the interiors comfortable, while the radiant floor heating balances the temperature of the home.

Protecting water resources was another important factor in the design of the building. The rooftop garden uses rainwater as a watering system and most of the



The vines on the central staircase climb through all three stories of the house.

runoff goes into the 1500-gallon cistern beneath the house that effectively reuses the water for irrigation of plants on lower levels. Excess water continues through the natural water cycle and infiltrates back into the ground both from the roof and through the permeable paving selected for the driveway.

After my conversation with Murphey, he sent a follow up. "Plumbean's our hero," he wrote, referring to the character in the 1977 Scholastic book, *The Big Orange Splot*, by Daniel Manus Pinkwater. He quoted the book: "Our street is us and we are it. Our street is where we like to be, and it looks like all our dreams." Murphey and Meditch hope their Chevy Chase abode will inspire local residents to create the homes of their dreams, while encouraging sustainable practices, as well. 🌱