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Needy for Green, Areas Look Skyward

Arundel, Arlington Tout Benefits of Roof Gardens

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Anne Arundel County Executive Janet S. Owens passed over her neighborhood on a helicopter flight recently and was startled to gaze down and see a sprawling gray quilt of roads and roofs.

For her, it was a rare chance to witness the cumulative effect of the slow but steady march of strip malls and subdivisions across portions of her once-rural county. And while it may be too late to get that green space back, Owens was at that moment sold on an unusual new method to re-create it -- by cultivating the rooftops.

Anne Arundel is among the first jurisdictions in the Washington region -- Arlington County is another -- to embrace the "living roof," a newfangled approach to restoring denuded communities. The goal: to create a world of greenery atop fire stations, community centers, libraries and office buildings.

This is not just an aesthetic pursuit. The aim is to reduce the environmental damage that has accompanied dense suburban development. Advocates say the new foliage can act like a sponge, taming the flow of rain that carries pollutants into the Potomac River and Chesapeake Bay.

"It turns out, the living roof is one way to contend with a problem that we didn't even know existed 30 years ago," Owens said, referring to the damage caused by storm water runoff. "We're trying to play catch-up."

Living roofs are a budding phenomenon in many parts of the country, adopted mostly in areas where urban growth has threatened water quality. In Chicago, city officials opened a garden atop city hall; in Pittsburgh, corporate leaders planted vegetation on the Heinz 57 building; and a carpet of shrubs now covers the truss roof of a million-square-foot Ford assembly plant in Dearborn, Mich.

Maryland officials have championed the concept, ever since they heard that an inch of rainfall across a single acre of urban blacktop could send 26,000 gallons of fouled water into the Chesapeake Bay.

"It's really part of a broader movement," said Mark Bundy, a director of bay policy at the Maryland Department of Natural Resources. "All across the country, more and more local jurisdictions are getting interested in building in a more environmentally responsible way."

Bundy, like other proponents of the concept, believes that planting a layer of soil and greenery across a rooftop not only benefits the environment but also makes for a more efficient building.

Under a hot summer sun, the temperature of the metal roof on one Arlington fire station can hit 150 degrees, said Joan Kelsch, an environmental planner with Arlington County.

"If you put a vegetated roof on it, it might only be 80 or 90 degrees," she said. "That makes a big difference not only for cooling costs but for the comfort of the firefighters sitting in the truck bay. It would no longer be like walking into a furnace."

Excited by the twin benefits of reducing pollution and enhancing energy efficiency, Maryland lawmakers passed legislation last year offering tax credits to developers willing to gamble on the concept. Anne Arundel and Arlington began considering ways to reward builders willing to try the technique -- which is about twice as expensive as a more typical roof.

Builders, though, have remained skeptical.

"On first blush, it sounded weird," said Susan Stroud Davies, who handles government relations for the Home Builders Association of Maryland. "I don't think there's enough understanding of what it entails."

With few private developers leaping at the idea, Owens decided she should make an example of her county. She approved the addition of living rooftops to five county buildings, including a Pasadena fire station that started construction last week. When the basic roof is done, it will be covered with a layer of tarp -- to prevent leaking -- a layer of soil and sedum, a hardy succulent that absorbs large volumes of water and requires virtually no attention from a gardener to flourish.

Ed Snodgrass, a northern Maryland farmer who has tailored his business to the green roof crowd, said he is optimistic that the idea will catch on in the sprawling Washington suburbs, as it has in densely packed Western European communities.

"These roofs answer what is really a new problem in our part of the world," Snodgrass said. "The landscape has changed here in the past 30 years. . . . Today, the roofs are the last place to turn for [the green space] that is badly needed."

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