THE VILLAGER



# A green roof at P.S. 41 is just about ready to sprout

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Science teacher Vicki Sando, left, and Principal Kelly Shannon on top of P.S. 41, where a green roof should be sprouting as soon as the next couple of months, though possibly not until the fall.

**BY TERESE LOEB KREUZER** | Gardeners need patience but usually not six years' worth to see the results of their labors. That's how long it's taken for a green roof at P.S. 41 in Greenwich Village to go from a gleam in the eye of a few parents to a fully funded facility all but ready to open. The roof is 15,000 square feet, of which 10,000 square feet will be planted with sedum — a hardy succulent — and other greenery. The roof garden will be used to teach science and will be integrated into other parts of the curriculum.

"We're pretty much at completion," said P.S. 41 Principal Kelly Shannon. "The issue is that the rest of the building went under construction."

The outside facade of the 55-year-old school at 116 W. 11th St. needed repointing, windows had to be replaced and the parapet and auditorium ceiling needed repairs.

"The roof can't get a certificate of occupancy until that's completed," said Shannon. "But the greenery is in a nursery and is ready to be planted."

P.S. 41 had hoped to open the green roof this spring, but it now looks like it will be June or July at the earliest, and possibly not until the fall.

"Our fifth graders are disappointed because they were here when we first started this process, and it was our hope that they would have the opportunity to be up there before they graduated," said Shannon. "We're still pushing for it, but we're not sure it's going to happen."

In addition to its pedagogical benefits, the green roof will provide much-needed outdoor space for the overcrowded school. P.S. 41 currently has 781 students and is on a lottery system for admission. It had to jettison its pre-kindergarten classes two years ago because there was no room for them. Next year, Shannon anticipates having about 800 students from kindergarten through fifth grade.



"We couldn't build any higher on the building. We didn't have the weight-bearing capacity," Shannon said. "As schools become more crowded, there has to be an opportunity for kids to be outside and be part of their natural surroundings. Given that they're crowded in other ways in the building, to know that there's this additional spacing is really heart-warming for us — to know that we've provided another venue for our kids to learn in."

Vicki Sando, the parent of two former students at the school and now a part-time science teacher there, spearheaded the green roof project and has been its constant booster since its inception. She will coordinate how the green roof is used and maintained once it opens.

A central section of the roof will be used as classroom space, with side sections set aside for an herb garden and as an on-site nursery, she explained.

"Our goal at P.S. 41 is to have a lot more science," Sando said. "Scientists are saying that we could be facing the next mass extinction of species in 50 years because of climate change, overpopulation and loss of habitat. Our children will be making the decisions on how to protect them or how not to protect them. If they do not have an interest in it, I fear there will be a huge loss of wildlife."

The long road toward opening the green roof has allowed time to develop ways to integrate it into the curriculum.

"For the last school year, we've been acclimating the science cluster teachers, as well as classroom teachers, to see how we can take the existing curriculum of New York State and utilize the roof for learning," Shannon said. "We carefully designed the roof with that in mind, so that the students can observe and explore and do some experiments on the roof."

The school's science teachers — Joaquin Rodriguez, who teaches the upper grades, and Allison MacCallum, who teaches the lower grades — have already started to reference the green roof in their teaching. A recent project involved comparing the soil that will be used on the green roof to soil that the students made from a mixture of sand, gravel, rocks and humus.

"We experimented with growing bean plants in both kinds of soil and we made predictions," MacCallum said. "We discovered that both soils worked well. The differences that we saw were based on how much water they were getting and how much light. The kids recorded the results in their journals."

Because of interest in the green roof, the school has started an Urban Eco-Club that meets once a week before school. The first meeting was on May 3 with 30 children participating.

"We had to turn kids away," MacCallum said. "We did a PowerPoint presentation on the green roof. The kids asked questions about the kinds of birds that might come to the roof, the kinds of insects, whether we would see any nests."

Some history was woven into the meeting, too.

"We talked about the origin of 'green roofs' and that they go back to the Hanging Gardens of Babylon," Sando said.

The green roof has cost $1.7 million to design, build and plant. Manhattan Borough President Scott Stringer allocated $650,000 in city capital funding to the project. An equal amount came from City Council Speaker Christine Quinn. State Senator Tom Duane came up with $200,000. Additional funding came from private donations.

Stringer sees the P.S. 41 green roof as a prototype that could be implemented in other public schools. In December 2010, his office organized a symposium at P.S 41 entitled, "Educational Green Roofs Construction & Curriculum Considerations for N.Y.C. Public Schools," to discuss the benefits and challenges of implementing green roofs in public schools.

His office also facilitated meetings with the School Construction Authority.

"The S.C.A. was initially skeptical about the project," said Sando. "They had never done anything like this. Scott Stringer's office was a tremendous help to us."

Other help has come or will come from corporations, businesses and nonprofit organizations that have offered advice, funding and, in the case of two local restaurants, Gramercy Tavern and Bobo, a willingness to buy the herbs that the students raise.

"The goal is not to make a lot of money but to have the kids understand how business works," Sando said.

"We anticipate working with corporations and companies that are into environmental sciences," Shannon added. "They would provide volunteers, services and equipment that might be needed. One of our major partners is Organic Valley, along with National Wildlife Federation."

Sando said that she and Shannon had already talked to the National Wildlife Federation about having an event at the school for some of their major supporters, so that "we can reciprocate for everything they've done for us so far."

Pedagogues are also eyeing the P.S. 41 green roof with great interest.

"We've worked with Columbia Teachers College and The New School," Shannon noted. "There are many universities interested in having their science departments participate because we'd be an on-site lab that they could utilize. They could try out curricula here, as well as offer us support in training and upkeep and maintenance with interns and volunteers.

"We've tried to make this as much as possible a community effort," the principal said, "because this kind of project entails that everyone be vested in it."



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David Salls · *127 weeks ago* 0

Aside from solar panels made into roofs, there are now these types of roof that looks like a garden. I think this would make some roof repairs in Perth to think a more environmental way on restoring roofs in order to compete on today's trends.

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