Project Profile

Project
Save The Bay Center
Providence, Rhode Island

Owner
Save The Bay

Architect
Croxton Collaborative Architects
New York, New York

Roofing Contractor
Apollo Roofing and Sheet Metal
Providence, Rhode Island

Roofing and Waterproofing Systems
Green Roof System, System 1000 Waterproofing System; Adhered roofing system using 80 mil G476 membrane; and white, 60 mil G410 EnergySmart Roof® membrane

Project Size
11,000 square feet roofing
6,000 square feet waterproofing

Completed
October 2004

Sika Sarnafil's Green Roof System Has Save The Bay Seeing Green

As its name implies, Save The Bay is focused on protecting the environment. It's no surprise then, that when the non-profit organization was looking for a roof for its new education center, the focus was on "green" roofs. In this case, "green" meant a vegetated roof, with plantings that would help the building blend into the surrounding landscape. The "natural" choice for such a roof? A Green Roof System from Sika Sarnafil.

A Commitment to Improving the Environment

Incorporated in 1970, Providence-based Save The Bay is dedicated to protecting and restoring Rhode Island's Narragansett Bay and its watershed. Its activities include cleaning up the waters of the bay, reclaiming and restoring brownfields, and educating children and adults about how the bay contributes to their economy, environment and quality of the life. The Save The Bay Center was recognized nationally in November as a prestigious Phoenix award winner for brownfields development excellence.

As part of its effort to inform and educate, Save the Bay decided to build an education center to serve as an environmental classroom. In keeping with its "green" philosophy, the organization hired Croxton Collaborative Architects, a New York City-based architectural firm known for its environmentally sustainable designs.

"Our goal was to have a building that would harmonize with the landscape, so we designed a building that is folded into the ground plane," said Chris Garvin, AIA project architect and associate at Croxton Collaborative. "We wanted the building to look like it is being lifted out of the ground."

One way the final building design achieved this effect is with a sloping, green roof. Not only do green roofs look attractive with their various plantings, but they also reduce water run-off from rain, insulate the roof from heat gain in the summer, and provide an improved acoustic barrier.

A Cost Savings Alternative

The original roof specification called for a hot rubberized asphalt waterproofing system combined with a TPO roofing system. Apollo Roofing and Sheet Metal of Providence, RI, a Sika Sarnafil Elite Contractor, had another recommendation, however. "We felt that the 4:12 slope of the roof would make installation of the hot rubberized asphalt waterproofing system very difficult, since the

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asphalt would be poured onto the slope," said L. Keith Deal, vice president at Apollo Roofing. "So we recommended the Sika Sarnafil System 1000 Waterproofing System with the Sika Sarnafil Adhered Roofing System. We have done several projects like this at Brown University, and we've always had a high rate of success with the Sika Sarnafil systems."

Deal added, "These vegetated roofs have a lot of overburdening and plants on them, so it can be very costly if you need to go back to identify and repair a leak on the roof. However, we haven't had a single problem to-date with the Sarnafil® green roofs we've installed."

One reason Sika Sarnafil green roofs are so successful is because the company has extensive experience, having been involved in over 1,000 green roofs worldwide. The Sika Sarnafil System 1000 features a durable vinyl membrane with the flexibility to allow installation over irregular substrates in any temperature.

It is one of the few waterproofing membranes to have passed the most stringent European test standards for root resistance including both the German FLL standard test and the Swiss SIA 280 material standard. The Sika Sarnafil Adhered Roofing System's membrane is fiberglass reinforced, offering exceptional dimensional stability and a low coefficient of thermal expansion.

Garvin said there were other advantages to the Sika Sarnafil systems. "After comparing the prices of installing this roof with the original specification, we realized we would get a better value going with Apollo Roofing and the Sika Sarnafil roofing and waterproofing membranes," he said. "We also liked the fact that the same company would provide both the waterproofing and the roofing systems. That means warranties, maintenance schedules and such are all specified and covered by one manufacturer. Plus, we had looked at the Sika Sarnafil green roof system before this, and knew it was a good product."

Entrance to Save The Bay Center, Providence, RI.

All the Elements of a Tricky Installation

Installation of the 6,000 square foot Sika Sarnafil waterproofing system and the 11,000 square foot roofing system went quickly and was completed in two months. This was important because they were under a strict deadline. "We had a 'drop dead' date in October for installing the plant plugs so they could take root before the winter," explained Garvin. "Fortunately the installation went very well – I was surprised at how quickly everything was installed," Garvin said. "Apollo Roofing was very responsive."

That's not to say the installation was without difficulties. One challenge was the location of the building. Save The Bay is located at Fields Point, where the Providence River empties into Narragansett Bay. "The building is only 75 feet from the water, and the Point is very windy and experiences all sorts of unique weather conditions," stated Deal. Another challenge was the slope of the roof. "We've never installed a green roof on a facility with this much slope," Deal said. Garvin explained that to prevent the roof soil and plantings from sliding off such a slope, they designed an alternating blocking system that would give the soil something to "grab onto."

Deal worked closely with Sika Sarnafil representatives on producing the retaining system. "We used wood blocks which were flashed into the waterproofing system and spaced at intervals across the roof, allowing for drainage," he explained. "At the bottom of the roof we took a perforated metal snow rail system which we modified in our metal shop to fit the profile the architect wanted." This metal rail was then covered with fascia to make it more aesthetically pleasing. "The Sika Sarnafil representatives were very helpful in working with us to come up with this solution," Deal added.

An Environmentally Friendly, Award-Winning Roof

The resulting roof is not only environmentally friendly and pleasing to look at but was also awarded third place in Sika Sarnafil's 2004 Waterproofing Project of the Year contest. "The project turned out exceptionally well," said Deal. "It is a very good-looking building and will perform well for the owner."

Garvin added, "Save The Bay is very happy with the roof. Several of their board members are very strong proponents of green roofs, and thanks to Sika Sarnafil, they were able to afford one."

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Sika Sarnafil
A Division of Sika Corporation
100 Dan Road
Canton, MA 02021
Telephone: 1-800-451-2504
Telefax: 781-828-5365
www.sikacorp.com

Sika Sarnafil
A Business Unit of Sika Canada Inc.
6820 Davand Drive, Unit 2
Mississauga, Ontario L5T 1J5
Telephone: 905-670-2222
Telefax: 905-670-5278
www.sika.ca

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