Project Profile

Project
St. John's Regional Medical Center
Oxnard, California

Owner
Catholic Healthcare West

Architect
RBB Architects, Inc.
Los Angeles, California

Roofing Consultant
Independent Roofing Consultants
Santa Ana, California

Roofing Contractor
DRI Commercial
Irvine, California

Roofing System
Adhered roof system,
using white, 72 mil G410
feltback EnergySmart® membrane

Project Size
170,000 square feet

Completed
November 2007

Medical Center Finds Sika Sarnafil Roofing System to be Just What the Doctor Ordered

As many doctors can attest, sometimes a band-aid just isn't enough. That was the case with the roof on the St. John's Regional Medical Center in Oxnard, CA. After hiring DRI Commercial of Irvine CA to perform an extensive repair on the existing built-up roofing assembly, it was determined that the roof was in worse condition than previously thought. The diagnosis: the built-up roof system had suffered water damage and had to be replaced. Their prescription: a Sika Sarnafil fully adhered roofing system using a Sarnafil® G410 72 mil feltback roofing membrane.

A History of Chronic Problems

The 170,000-square-foot roof of the medical facility had experienced severe leaks for many years — even though that area of California was experiencing one its driest periods in history. The hospital's Foundation Board knew they had to address the roof's problems before they grew into even bigger headaches. However, they also had to find a solution that would not disrupt the operations of the 266-bed health care facility.

The initial response was to have DRI perform a cold process repair, believing that to be the best solution. However, after completing about 10 percent of the original $2,000,000 repair contract, the design and construction team discovered that much of the 22-inch thick perlite insulation had water damage, and there was no way of telling if any of the structure was also damaged.

An Adaptable Treatment

DRI worked with the architectural firm RBB Architects Inc. of Los Angeles, CA and Independent Roofing Consultants of Santa Ana, CA. A recommendation was made to do a total tear-off which included the roof and the perlite insulation. The removal of the insulation was key, because it would allow DRI to evaluate the deck, make any necessary repairs and also allow DRI to install a cellular lightweight concrete (CLWC) system that would provide equal or better insulating value.

The CLWC would have a maximum thickness of 18 inches (compared to the 22 inch thickness of the perlite insulation) which would increase flashing heights that were previously below industry standards and a significant cause of leaks.

Sika® Sarnafil®

Another advantage of the CLWC was that it would provide a suitable substrate for the installation of the adhered Sarnafil system as the final roofing solution. "Cellular concrete is a lot easier to control than tapered rigid board, and it makes it easier to maintain a ¼-inch slope at minimum," stated Tod Fritts, senior project manager at DRI. "That was important because there were many different levels of the roof and existing conditions that couldn't be modified."

The stucco parapet walls were other areas of concern, and considered a possible source of water intrusion. DRI was able to tear off about 10,000 square feet of stucco, install DensDeck® prime gypsum board and then adhere the Sarnafil membrane, thereby providing a watertight solution from parapet wall to roof system.

"The Sarnafil membrane is very adaptable in its ability to interface with the walls of the building," said Lynn Jardinico, a consultant with Independent Roofing Consultants. "DRI was able to use the membrane to make transitions from new walls to side walls, even at odd angles. That's something you can't do with other roofing systems."

A Non-Invasive Procedure

DRI faced many challenges during the tear-off of the roof and installation of the new roof, the most important of which was keeping the hospital running and watertight with no inconvenience to the patients or medical staff. "One way we accomplished this was by working in split shifts," Fritts explained. "We did a tear-off in the morning, and then mid-day we installed a permanent moisture barrier in a watertight condition.

DRI installed the EnergySmart Roof on St. John's while the facility was open and operating. This prompted an accelerated schedule, and DRI employed a full-time Site Superintendent / Manager along with approximately 70 roofing and demolition workers.

After that we put down the concrete (almost 6,000 cubic yards of CLWC were poured) and adhered the Sarnafil membrane."

Another challenge was dealing with the numerous parties involved. California's Office of Statewide Health Planning and Development (OSHPD) had to approve the roofing solution, and it often took the design team several months to approve specific assemblies and details. In addition, other repairs and renovations were being done at the hospital, so DRI had to coordinate its efforts with other trades on the site. Due to good planning and solid communication, everything ran very smoothly, especially for a project so large and complicated.

"DRI was great to work with and provided a lot of value for the low-cost solutions," said Ryan Rodgers, project manager at Phoenix-based Kitchell Contractors, the general contractor on the job site. "We ran into a lot of unexpected issues and DRI was able to provide the right solutions to those problems."

Rodgers added that Sika Sarnafil technical representatives also played a role in keeping things on schedule. "Sika Sarnafil was usually able to verify DRI's proposed solution in one day and keep things going," he stated. Jardinico echoed Rodger's sentiment. "The coordination of the roofing and other trades as well as the OSHPD inspectors was difficult – in all there were about six different parties that had to be in sync," she explained. "But Sika Sarnafil and DRI were very flexible, and one reason for the success of this project is that Sika Sarnafil's technical assistance was readily available."

Fritts explained, "It is important to obtain technical answers immediately because when questions arise on the job we can't leave things open while we wait for an answer. That's why we appreciated the responsive and knowledgeable help of the Sika Sarnafil representatives."

A Full Recovery

Despite these various challenges, DRI was able to keep to the accelerated schedule and finish the job without any disruption to the medical center and without a single leak to the facility – an accomplishment that won them First Place in Sika Sarnafil's 2007 Project of the Year Low Slope category.

"Even with all the unexpected challenges they faced, the new roof looks fabulous and very professional," Rodgers said.

Jardinico added, "There have been some fairly significant storms since the roof was installed and the roof has performed great. It's a beautiful job and I think the hospital will be very happy with it."

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