Urban Times ARCHIVES

FROM: JUNE 2007

Green roof a highlight of project

THE TIMING COULD NOT HAVE BEEN BETTER. On the morning of May 15, Mayor Bart Peterson had visited the Indianapolis Museum of Art to launch Indy GreenPrint, what the city describes as a comprehensive vision to make Indianapolis more sustainable and position the city to be a leader in promoting climate protection, energy efficiency and energy conservation.

That afternoon, he found himself on the parking lot at 333 Mass for the ground-breaking of 3Mass – a 10-story upscale condominium project which has been anticipated by Downtown residents since it graced the cover of the July 2006 edition of Urban Times.

What wasn't known until May, however, was that the building would be topped by a green, environmentally friendly roof which Peterson said was "absolutely perfect, absolutely what we need."

He also praised the condominium project as the latest enhancement to Massachusetts Avenue, which he said was "becoming the iconic street of Downtown Indianapolis, the cultural center of the city and its entertainment center.

3Mass is a 44-unit condominium project being developed by Halakar Properties and Pillar Investment, along with Schmidt Associates, which is also serving as architect for the structure which will front both Mass Ave and New York Street.

While the high-end project will have everything from double-wall construction to ease sound issues to an exercise room and wine cellar, the subject of the day was the environmentally friendly roof which will essentially serve as residents' backyard.

"The green roof will be better for the city and for our residents," said Halakar principal Todd Maurer. "It's more than just a good place to watch the fireworks."

Maurer explained the economic sense of the green roof strategy: "Normally in a dense urban development project, we'd have to build a storage system that would hold rainwater from the roof and then release the water slowly into storm sewers. That is a costly solution on a number of fronts," Maurer said. "We found a better way to deal with storm water that will be environmentally friendly and less expensive as well as provide a social gathering space for residents."

Indianapolis currently has some deep or "intensive" green roof systems at the Indiana State Museum, the Indianapolis Museum of Art and the downtown Westin Hotel. However, the 3Mass project will be the first "extensive" green roof system, which is lighter in weight and composed primarily of minerals like expanded shale, sand and compost instead of yard soil.

The idea emanated from Schmidt Associates, a Mass Ave firm that has been committed to the concept and had had a test piece of green roof on its building at 320 E. Vermont Street for two years. Schmidt carried the "green" banner further when it installed a solar power-generating awning on that Vermont Street building (Urban Times, August 2006).

Schmidt architect Kevin Shelley said the 3Mass green roof will place a thin, four- to six-inch layer of planting medium on top of a more traditional waterproofing roof. The medium will be planted with specially selected ground covering plants. In parts of the roof, deeper areas of planting medium will contain small ornamental trees and grasses to control views and enhance visual interest.

According to Schmidt landscape architect Craig Flandermeyer, "You can water it for several minutes before any water runs out. In a small rain event, you won't see water coming off it because it is absorbed in the soil."

If the 3Mass extensive green roof reaches saturation, the excess rainwater will be slowly released into the city storm water system, but the water will be cleaner than when it fell. The green roof soil and vegetation will filter particulates from the rainwater – including those that contribute to acid rain – yielding cleaner water released to the storm system.

Urban buildings with black roofs create a "heat island" effect, while green roofs with growing space are typically much cooler. Green roofs save heating and cooling costs and

Illustration provided by 360 Group

▲ The 3Mass condominium project will feature an environmentally friendly "green roof" which will fit into the city's new Indy Greenprint effort, as well as provide outdoor space for the building's occupants. At the lower left is the Hammond Block building, which sits at the corner of Massachusetts Avenue and New York Street. Mass Ave is the street running diagonally through this illustration.

put oxygen back into the air through the plants - something that is greatly needed in an urban area. Green roofs have been used for a number of years in Europe, particularly in densely populated urban areas with limited land. In Stuttgardt, Germany, the use of green roofs is nearly mandatory in certain forms of construction.

"A black rubber roof can reach temperatures of 160 degrees on a hot day and then cool to 70 degrees at night," Flandermeyer said. "That temperature variation puts a lot of stress on the roof membrane. Based on the experiences in Germany, a green roof system can greatly increase the life of a roof. They have green roof systems there that have been in

place for 30 to 50 years."

Mayor Richard Daley began a green roof initiative in Chicago after he saw garden-like roofs in Europe. Chicago began its initiative by installing a green roof on City Hall in 2000 and now has the highest square footage of green roof in the U.S.

"If Chicago can be a demonstration area for green roofs," Maurer said, "we can do it in Indianapolis."

The idea of an "extensive" green roof is so new to Indianapolis that Schmidt Associates helped the city develop standards for 3Mass and future projects.

The 3Mass rooftop garden will not need to be mowed, but it will require occasional maintenance by a landscaping company. It is likely to have a sub irrigation system to wick water back into the planting medium. Indianapolis typically has sufficient rain to keep the planting medium wet, minimizing the need to irrigate the plantings once they are established.

"An extensive green roof system adds to the construction cost, but weighed against the cost of a storage tank and water quality measures, the green roof was the best decision for this site," said Maurer. "Discharging water into the storm sewers also generates an ongoing fee, so reducing the discharge is a benefit to the users into the future. Additionally, a green roof like this will minimize the project's impact on the city sewer system, which is already challenged by storm water." ■