

County uses infrared technology to inspect roof damage

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TAMPA— Hillsborough County is using infrared technology to revamp a traditionally low-tech process for replacing and repairing roofs.

The Facilities Management Division oversees 300 building including firehouses, courthouses and libraries but budgets just \$300,000 a year for re-roofing.

The division expects that a \$50,000 study detailing roof damage will help cut maintenance costs in half by avoiding unnecessary replacement that can cost \$100,000 for a single roof.

The division has seen that chronic leaks are an expensive and time-consuming building problem and can lead to undetected damage or structure collapse. It is working with Maitland-based Infrared Concepts Corp., which has provided the county with detailed roof intelligence reports on 70 of its 300 buildings.

A patented system used by Infrared Concepts helps uncover hidden leaks by using helicopters and cooled camera technology to collect data on target buildings. Infrared pictures are taken at night and then imposed on color-coded daytime photographs denoting probable areas of moisture infiltration in red.

Valerie Patterson, president of Infrared Concepts, likens her company's services to those of a medical professional.

"You want to do the nondestructive test like the sonogram or the X-ray before you do surgery,"

Patterson said. "This is a nondestructive test that shows the indication of the problem before digging holes in your building every foot to determine what might be the problem.

The company helps property owners reach the ultimate goal of asset protection because every 1 million square feet of roofing represents a \$10-million asset, she said. Its client list includes Broward County Public Schools, Orlando International Airport, Tampa's U.S. Veterans Administration Hospital and more than 50 government entities including the cities of Tampa and Orlando.

Computer analysis of infrared results for 1 million square feet is complete in 40—60 hours at an estimated cost of 3 cents per square foot for a volume purchase.

It previously took a 14-person staff up to five years to make a full rotation through 4.2 million square feet in order to prioritize spending for properties in the worst condition, said Don Harwig, director of Hillsborough County facilities management.

We waited until people started complaining their roofs were leaking Harwig said.

The results led to the development of a three-to five-year roofing development plan to ad-

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dress roofing needs. Hillsborough County recently signed on for a second study in 2005 to track the progression and migration of moisture and examine the entire system, this time concentrating on buildings with expiring roof warranties.

The county now can hold applicators and manufacturers accountable if necessary and at the same time seek more funding during the budget cycle because we can demonstrate exact areas of need, Harwig said.

The use of infrared photos and high-tech software undoubtedly enhances detection. However, critics say the need for experts in physical inspection still remains.

"The best thing that can be done to truly inspect a roof is to conduct a visual inspection using a trained eye and years of experience", said Hig Rodriguez Dillinger, president of roof management firm CIRSCO, commercial Industrial Roof Services Company.

"One of the advantages of the infrared technology is if you have a lot of roofs and a lot of facilities spread out over a geographic area, you begin to get some evidence that helps you establish priorities," said Dillinger, a 28-year industry veteran. "But it still comes down to a guy like me going on the roof and inspecting the system."