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Onset and RA&A team up to identify sources of moisture damage in a wood-framed apartment complex

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Onset, a world leader in data loggers, said that forensic architectural construction consulting firm Richard Avelar & Associates (RA&A) has used 100 Onset HOBOTemperature and humidity loggers to identify additional sources of moisture damage in a wood-framed apartment complex.

The monitoring project, which ran for five months, was aimed at investigating unexplained causes of moisture damage, wood decay and fungal growth found behind cladding and sheathing in certain ground-floor walls throughout the large complex.

RA&A principal consultant Lonnie Haughton said, "The data loggers allowed us to evaluate alternative explanations for the observed conditions and to greatly expand the scope and reach of our investigation."

To track ambient conditions, Haughton and his team deployed the temperature and humidity loggers in 23 ground-floor apartments throughout the complex. The battery-powered devices were placed in a variety of locations, from interior hallways near kitchens and bathrooms to bedroom closets to exterior wall cavities, and simultaneously recorded temperature and relative humidity measurements every 10 minutes. More than 2 million measurements were taken during the five-month period.

Midway through the monitoring period, and then at the conclusion of the testing, the collected data from each logger was offloaded and viewed using Onset's HOBOWare graphing and analysis software, and then exported to Microsoft Excel for data analysis.

"Ultimately, the collected data helped us to identify additional sources and mechanisms of the moisture damage and decay that had been discovered within the exterior walls," said Haughton.

A report of RA&A's investigation will be published in an upcoming issue of Interface magazine (<http://www.rci-online.org/interface.html>), North America's leading journal for forensic construction consultants.

Onset is a leading supplier of data loggers. The company's HOBOTemperature data logger and weather station products are used around the world in a broad range of applications, including building energy performance monitoring, water resources management, and ecological and agricultural research. Based on Cape Cod, Onset has sold more than two million data loggers since the company's founding in 1981.

The Richard Avelar & Associates staff of principal architects and contractors has a wealth of experience analyzing, designing, consulting, building, repairing and developing maintenance best practices for diversified construction projects.

These range from large commercial buildings to multi-unit condominium and townhouse complexes to single-family homes. We also use state-of-the-art, computer-aided design to generate visually persuasive and informative presentation materials and reconstruction documents. Visit RA&A on the web at <http://www.ravelar.com>.

