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Wind Hazards in Coastal Zones

Longboat Key is a town in Manatee and Sarasota counties along the central west coast of the state of Florida, USA, located on the barrier island of the same name. Longboat Key is to the south of Anna Maria 611 Island, between Sarasota Bay and the Gulf of Mexico. Town of Longboat Key was incorporated in 1955 and has land area of 11 square kilometers and a population of 7000. The Colony, a beach-front luxury tourist resort, located at 1620, Gulf Coast Drive, Longboat Key, is an 18-acre resort containing 234 condominium units, many tennis courts, restaurant and other amenities. The current land value of resort is estimated at \$36 million. This resort was built in 1970s and operated profitably with high tourist occupancy for about fifty years. However, because of poor maintenance and salt laden environment, rotting of wood siding, rusting of structural steel and concrete rebars continued for many years. Eventually all building became structurally deficient and dangerous for occupancy. The town commission then closed down the resort and asked everybody to leave. Between 2010 and 2014, degradation of buildings accelerated and building components e.g., door, windows, balconies, started falling down and the town commission started worrying about the colony becoming a source of wind borne debris in case of a hurricane. The town commission then approached Rinker School of Construction Management to conduct a detailed study for the potential of Wind Borne debris hazard.

Biography

Ajay Shanker obtained his BS and MS degrees in Civil Engineering in India and then completed his PhD in Structural Engineering from Texas Tech University, Lubbock Texas USA in 1990. For the past 26 years, he has been serving as a faculty member at the University of Florida. He has completed 23 research grants in the fields of structural engineering and hurricane resistant construction and has advised about 70 students for their theses and dissertations.

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