

Engineers cite possible design flaws as investigation stalls into fatal Florida condo collapse

Tim Rivers
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On Monday, the *Miami Herald* published findings that rule out the opening of a sinkhole as the cause of the horrific collapse of the condo tower on a beachfront in Florida in late June. “Scraped clean of tons of rubble..., the bare garage floor of Champlain Towers South appears to rule out at least one early suspect in its catastrophic collapse,” the article concluded. “There were no telltale signs of a sinkhole.”

The “sinkhole” that a doomed resident had identified in her final phone conversation was likely not the result of a sub-soil collapse beneath the building, but probably the first image of catastrophic failure in the concrete slab supporting the pool, the entrance and the first floor of the tower. Ironically, this was the structural element cited as the main cause for alarm in a consulting engineer’s inspection report prepared for the condominium association’s 40-year licensing review in 2018. Half a dozen structural engineers consulted by the *Herald* pointed to the same slab as a likely trigger in the collapse.

Frank Morabito, the engineer hired by the board, wrote that flaws in the original design and “failed waterproofing” below the pool deck was “causing major structural damage to the concrete structural slab below these areas” and warned that failure to replace it in the near future would cause “concrete deterioration to expand exponentially.”

The “seeming trigger event of a massive and still unresolved structural failure” could implicate developers, designers, contractors, building officials and others in the deadly collapse that claimed 98 identified victims. But the investigation into what could prove to be a complex combination of causes has been stalled.

“The [garage] slab appears to be intact, and there is no obvious sink hole,” Jennifer Huergo, a spokesperson for the National Institute of Standards and Technology

(NIST), the federal agency investigating the cause of the collapse, told the *Herald*. “That said ... our experts will be looking at every aspect, above and below ground, for potential triggers.” In its 80-year history the NIST has conducted only four similar investigations before this one.

The site has been dubbed a crime scene by the Miami-Dade Police Department (MDPD), and the county’s Mayor Daniella Levine-Cava has taken the unprecedented step of barring the town of Surfside’s forensic structural engineer Allyn Kilsheimer from doing tests on the site and on the thousands of tons of concrete and other materials removed and stored nearby. In his more than 50-year career Kilsheimer has consulted on projects throughout the world and conducted more than 100 similar forensic investigations, but never before has he been denied access to a site under investigation.

Levine-Cava claims to be protecting evidence in a homicide investigation and has made the technical investigation of the collapse the exclusive purview of the NIST. Surfside Mayor Charles Burkett has issued a series of forceful protests pointing to the admission by NIST that its investigation will likely take three years before it will be able to issue a report, and there are urgent matters of public safety involved in the potential that other structures may be at risk from similar conditions.

Last Tuesday, Burkett fired off a letter to Levine-Cava which said, “We want to make it absolutely clear that we object to being denied access to the site.” Levine-Cava responded with a statement saying Surfside can have access, “as soon as it’s possible to do so without compromising the investigation of the site.”

Then on Wednesday, as reported in the Engineering News-Record, the MDPD published a request for a forensic structural engineer under the county’s Equitable Distribution Program (EDP), which has “a pool of

qualified local architects, engineers and landscape architects and provides a process to equitably distribute smaller county capital improvements projects.” Such projects typically have a construction cost of less than \$2 million and professional fees of up to \$200,000.

All qualified firms with a local Miami-Dade office may potentially participate in the EDP program, which is “not only a minority and/or small business program. However, the ranking method favors the smaller firms with fewer previous county work opportunities,” the county explains.

In its request issued July 28, MDPD says it is seeking a qualified EDP structural consultant that has “first-hand experience with structural evaluation, to include, but not be limited to, conducting forensic investigations, preparing repair designs and preparing/submitting demolition engineering design/permit applications.”

The firm, with a minimum of 20 years of experience, should be able to perform a comprehensive investigation of all construction and design contract documents, inspection logs, testing, substitution, codes and standards of the time and more, as the consultant “deems required, as well as field inspection of the failed structure, to provide MDPD with an engineering forensic investigation report on the causes of the structural failure.” Interested firms were instructed to inform the MDPD by email no later than Friday, July 30.

The posting is the first definitive sign that Miami-Dade County intends to conduct its own engineering analysis of the collapse rather than waiting for the NIST findings.

“Why the county would be searching for a structural engineer consultant at this late date, especially given that we’ve had the best available, onsite and ready to work since day one, is inexplicable,” Burkett wrote in a Wednesday email to Kilsheimer.

In response, the county mayor’s office claims the site must remain closed as the two investigations which it has approved—the one advertised above by the police department and that by the NIST—continue.

Burkett visited the site himself Thursday, along with the town manager and attorney but without his consulting engineer, who is barred, after requesting access from the county in a phone call earlier on Thursday with Levine-Cava and Miami-Dade Police Director Alfredo “Freddy” Ramirez.

On Thursday, the court-appointed receiver running the Champlain Towers South condo association sided with Miami-Dade and instructed county police not to allow the Town of Surfside and its experts on the property.

“This shall confirm our conversation that no other

person, entity or party other than NIST and those necessary for the County to perform its criminal investigation should be given access to the Real Property while it is under the County’s control,” Michael Goldberg, a Miami lawyer, wrote to Major Jorge Aguiar, head of the county’s homicide bureau. “This specifically includes, but is not limited to, the Town of Surfside and its employees and experts.”

Burkett says Miami-Dade officials have said they expect the town to be a defendant in a suit since the head of Surfside’s Building Department was quoted as telling Champlain South residents the tower was in “very good shape” in 2018.

Last week the county’s top prosecutor, Katherine Fernandez Rundle, said she would wait for the results of the NIST’s investigation into the cause of the collapse before considering a criminal investigation. While waiting for that report, she has launched a grand jury to explore possible reforms to prevent similar collapses from happening in the future.

To this day, the prosecutor’s office has an open investigation into the death of six people in the 2018 Florida International University bridge collapse, according to a spokeswoman. In 2019 the National Transportation Safety Review Board determined that design flaws and insufficient oversight led to that fatal collapse.



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