Surfside:
Buildings just don’t fail like this!
Champlain Towers South
8777 Collins Ave, Town of Surfside, FL
June 24th, 2021 at about 1:25 a.m.
Champlain Towers South Collapse
Collapsed Portion of Building

• The collapse resulted in 98 Fatalities
• Approximately 102 made it out of the building
• A portion of building suffered catastrophic failure
• Lots of speculation about what triggered the collapse, at the time
• To date, reason(s) for the collapse remain unknown
• NIST is still working on forensics
Let’s step back for a moment...
Origins of the Recertification Program

On 8/5/1974, a building leased by the DEA located at 1201 NE 2 Ave., Miami collapsed and killed 7 people and injured 16 others.

Source: The New York Times
Origins of the Recertification Program

• On May 21, 1975, the Board of County Commissioners adopted and passed Ordinance No. 75-34, amending the South Florida Building Code (at the time) to require that all buildings, except single family residences, duplexes and minor structures, 40 years old or older be recertified as to their structural safety.

• Subsequent recertifications were required at 10-year intervals.
Basic Intent of this Program

• Get a set of trained eyes to inspect and determine how the building is aging
• Identify any structural distress
• Recommend repairs so the building can continue to serve the use
Working Towards Recertification
Champlain’s Structural Field Survey Report

• Built in 1981, Champlain Towers was due for the 40-Year Recertification in 2021.

• An engineering firm was hired in 2018 to perform a structural field survey of the building.

• The engineering firm reviewed architectural and structural documents. (Provided by the City of Surfside)

• The purpose was to survey the entire building’s condition to understand and document the extent of structural issues.

• Provide a report and estimate cost of repairs to the condominium board.
Structural Field Survey Report
Observed Conditions:

• The report observed significant stucco cracking in the exterior façade between the top of the concrete slab and first course of masonry.

• Pool deck and entrance drive were observed with minor cracking at planter knee walls.

• Joint sealant needed replacement at pool deck.

• Waterproofing below the pool deck and entrance drive must be replaced.
Observed Conditions:

- The failed pool deck waterproofing is causing major structural damage to the concrete slab below these areas, due to lack of drainage.
- Parking garage levels have abundant cracking and spalling in varying degrees in the columns, beams, and walls.
- Sizeable spalls were noted in the topside of the entrance drive ramp and underside of the pool/entrance/planter slabs.
The report did not make any conclusions as to the eminent failure of the building other than raising concerns over the noted maintenance issues.

- The reported cost of repairs was over $9M ($15M)
- The engineering firm was hired in 2020 to start the 40-year recertification process.
- At the time of the collapse the roof repairs had gotten underway, but concrete restoration had not yet begun.
Collapsed Portion of Building
Unprecedented Task Force Deployment

- Florida Task Force 1, 2 & 3
- New Jersey Task Force 1
- Ohio Task Force 1
- Pennsylvania Task Force
- Virginia Task Force 2
- And other search and rescue teams from around the nation and the world (Israel and Mexico)
- Largest deployment outside of a natural disaster.
Search and Rescue
Search and Rescue
Search and Rescue
Demolition of Remaining Building

• Instability of the remaining building was holding back the search and rescue mission, the remainder of the building needed to be demolished.
• At the time, a threat from Tropical Storm Elsa’s could impact area.
• On July 4th, 2021, at 10:30 p.m. the remaining section of the building was imploded.
Demolition of Remaining Building

- On July 4th, 2021, at 10:30 p.m. the remain building was imploded.
Demolition of Remaining Building
Speculations

• There are lots of speculations and theories as to the cause of the collapse.
• There are many videos on social media that offer analysis and reasons.
• National Institute of Standards & Technology (NIST) is currently working on determining what triggered the collapse but won’t have report for some time.
• NIST collected structural samples that are being kept in a warehouse for analysis.
NIST Investigation
NIST Investigation
Current Site
Current Site
Industry Meetings

• The International Code Council (ICC), Building Officials Association of Florida (BOAF), Building Owners and Managers Association (BOMA), and National Institute of Building Sciences (NIBS) held an industry meeting on August 17, 2021, in West Palm Beach, Florida for one day.

• The focus was on how communities monitor the safety of existing buildings, what guidance exists for building owners, and how future catastrophic events can be avoided.
Changes to the Recertification Program

• Miami-Dade County Recertification Working Group
  • Initiated by MDC Regulatory and Economic Resources (RER) Department
  • Group comprised of County Department staff and local Building Officials
  • Develop enhancements to the current program
Recent Changes

• Miami-Dade adopted a strengthened milestone inspection program that reduced the inspection cycle from 40 to 30 years.

• Florida recently enacted a new law that created a milestone inspection program across the entire state, it is currently limited to condominium and cooperative association buildings 3-stories or taller.

• Some Condominium and Cooperative reforms includes
  • Not being able to waive reserves
  • Providing a reserve study every 10-year to set maintenance reserve amounts
In Closing

• A more in-depth structural review of the building may be warranted as it ages

• Perform Building maintenance on a regular basis

• Don’t wait until a regulatory requirement to perform maintenance
  • Like the building code milestone inspections are minimums

• The NIST report will disclose more about what could have triggered this collapse
  • Recommendations to changes in structural design, codes, and/or inspections may be forthcoming

• Buildings just don’t fail like this!
Thank you.