Coastal Flooding from Irene; Sandy... Reflections of a First Responder

Douglas F. Jackson
Fire Chief / Emergency Management Director
East Haven, CT
Experience
9 YEARS
Experience as Fire Chief

Emergency Management Director

2012 Award
Emergency Management Director of the Year for Connecticut
For preparation, command of response to Tropical Storm Irene,
FEMA coordination with municipality post storm

29 YEARS
career service
20 as fire officer in East Haven

10 Years
living in the neighborhood hardest hit
Portions of the Cosey Beach Shoreline
Conditions Deteriorate

- As the tide came in and surged to excessive levels the extreme wave force pounded the houses.
- An additional group of residents that had not previously heeded warnings and evacuation orders suddenly wanted out.
- Multiple events coming in all over town with many trees and wires coming down, tree in north end of town away from coast crashes through roof of 2nd floor of home reaching through 1st floor ceiling.

Irene
Weather Conditions Worsen

- Then we had the combination of an astrological high tide, combined with the effects of what had very recently been a hurricane taking direct aim at our shoreline.
- The timing of the brunt of the storm caused it to come on shore.......
One of several areas from Irene

- I made the decision to lock down the entire area; not allowing anyone back in until our search for victims was complete. Wave action was a major contributor to the damage.
I had reports of looting, and people missing.
• Full height of Irene on Cosey Beach Ave
298 Cosey Beach Ave
Value of Local Planning
Flooding

:: Right at the peak of high tide
Tropical storm at Connecticut shoreline

Wave Action

Tidal surge, combining with an extra high tide, along with 60 plus mph winds
Our First Issue was Access

DURING high tide

AFTER tide receded
Aftermath

:: Remains of one house located directly on the shoreline

The power of the wave action in conjunction with the scouring of the foundation system lead to this collapse
Upon first inspection, finding descriptive words was difficult, to express the devastation that was present.
Aftermath

This house was located between two others that had much more substantial wall structures for protection.
This house is a good example of wave action at an excessively high tide having enough force to access the first floor and scour the cedar post foundation of the original portion of the house.
Aftermath

This house was built within the past 10 years to the current elevation standards. Blow out walls and foundation system functioned per design.
Aftermath

:: Old standard vs. new elevation code

Heavy damage from flooding and wave entry to 1st floor vs. landscaping damage and replacement of blow-out walls with the new design
Cosey Beach during flooding
Not all of our public had the common sense to abide by the mandatory evacuation. Pictured below: 1 fool passing on his lunacy to another generation.
And more flooding
Original height to new code
While not “substantially damaged” it was close. Many of these homes were gutted by the wave action. As the other photos show this house was raised under an SRL Grant that pre-dated Irene but where construction was held up in paperwork and approvals. The tedious process cost a great deal in this and several other examples.
Raised up, Out of harms way
318 CB Ave results: Irene: water and waves 1st floor destroyed vs. higher water level Sandy, no interior damage.

Elevation Cert before Elevation Cert after

Esposito 318 before elevation cert.pdf Esposito 318 finished el cert.pdf
House moved by water
Vigilance in the contractor inspections is also key to a good job.
Original to new elevation
Ground coupling system; replacement modular home
Flood Insurance is expensive but dropping it and getting a big storm is worse……

House spared by Irene.......
We also have to keep in mind when enforcing regulations that sometimes there is also a need for expediency besides exacting enforcement. Lengthy reviews followed by plan rejection and more lengthy reviews could have a devastating effect on the property and people the regulations are designed to protect in addition to the environment. The next couple of photos are of a condominium complex that lost its dunes that protected them during Irene. The painful and lengthy process to get approvals and then do the construction can leave a huge exposure to damage to another storm as happened with Sandy.
Waterfront condos waiting for plan approval prior to construction