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Bomb-o-genesis: Might finally get that the sea level is rising - by Susan Bernstein

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Susan Bernstein
Attorney at Law

On January 4, the greater Boston area experienced its own “Superstorm.” The high winds and tides contributed to water flowing into Boston’s Seaport District, down the stairs at the Aquarium MBTA station, and succeeded in flooding other low lying areas throughout eastern Massachusetts’ coastal communities, such as: Revere, Winthrop, Marshfield, Scituate, and

Gloucester. The high tides in Boston were measured at 15.16 feet, above the previous record high tides experienced during the “Blizzard of 1978,” at 15.1 feet. Many of us heard the phrases “bomb cyclone” and “bomb-o-genesis” for the first time to describe the historically rapid plunging atmospheric pressure.

With the 2016 federal Flood Emergency Management Act’s (FEMA) National Flood Insurance Program maps in place, any project situated in a flood zone (Special Flood Hazard Areas) is also subject to the Massachusetts Wetlands Protection Act’s (the Act). The Act’s regulations require property situated in flood zones where alterations and new developments are contemplated, to locate buildings above the base flood elevation level of 10 feet or higher, in order to ensure that in the event of a storm surge the first floor will not be flooded. Also, mechanical rooms, utilities, and other equipment can no longer be placed in the basement of buildings in these areas. Additionally, an engineer’s Stormwater Report and Best Management Practices (BMPs) are often required to show that stormwater runoff can be infiltrated into the ground and over impervious surfaces, and satisfy recharge volume and water quality requirements.

Since 2013, the city of Boston has required applicants seeking approvals under the Act to submit responses to a Climate Preparedness Questionnaire, in order to address sea-level rise, and storm impacts, as well as “green energy” efficiencies. The city has also been responsible for producing a number of reports on climate change and preparedness including: Climate Ready Boston, and Coastal Resilience Solutions for East Boston and Charlestown, which predict that by 2030 sea levels will rise by 9 inches in Boston. Additionally, several groups are in the process of conducting studies and policy recommendations on how to address climate change issues based on rising sea levels in and around Boston Harbor. The Barr Foundation, Boston Harbor Now, and the Boston Green Ribbon Commission are among those active in this field.

While some may believe that these requirements are onerous, particularly if a project is a modest redevelopment or small residential structure, the television footage from the January 4 storm, where flooding occurred in areas previously untouched by storm flows, bears out the importance of protecting property and planning for a rising seawater level throughout the Greater Boston area. The “practical interpretation” of the likelihood of flooding to occur in a

low-lying area once every 100 or 500-years now has a whole new meaning.

Some regulatory programs address the reduction of greenhouse gas emissions that are contributing to global warming, while others promote alternative energy, and others address flood issues. Although the debate may still be occurring in some corners, the public has witnessed Hurricanes Harvey, Maria, and Irma, Super Storm Sandy, and now the great storm of January 4, 2018.

As Boston's mayor Walsh noted at his storm day press conference, "If anyone wants to question global warming, just see where the flood zones are...Some of those zones did not flood 30 years ago."

So now, the public might finally get it!

Susan Bernstein is an attorney at law, Needham, Mass.

New England Real Estate Journal - 17 Accord Park Drive #207, Norwell MA 02061 - (781) 878-4540