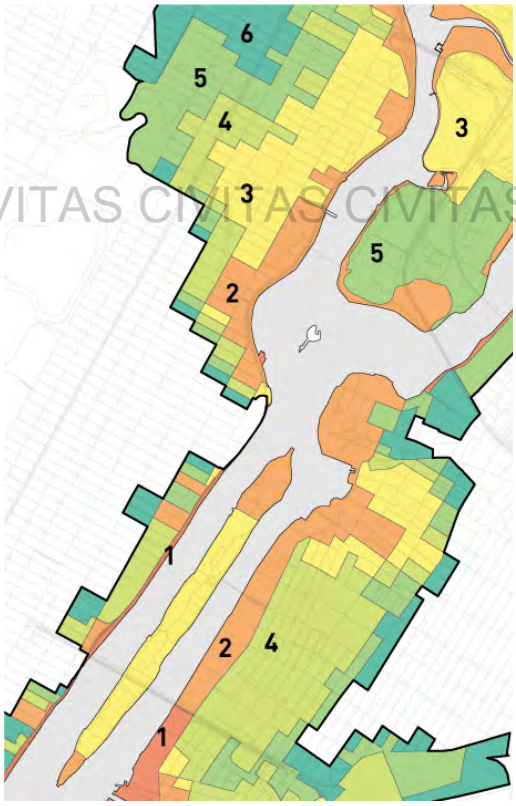
Hurricane Sandy

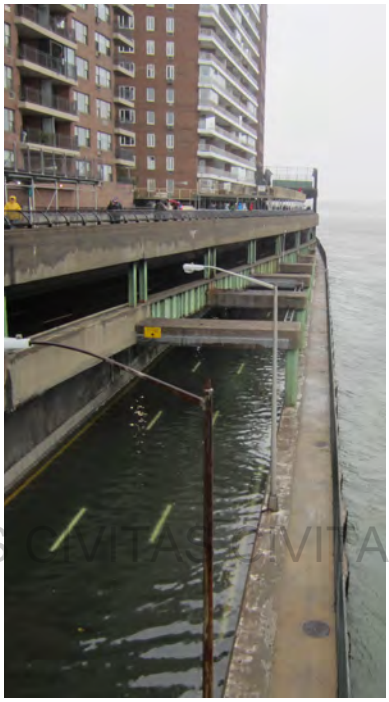
Hurricane Sandy, one of the most destructive storms to affect the Northeastern United States, hit New York City on October 29, 2012. While only a Category 2 storm at the time, the extensive storm surge flooded low-lying areas of the city. It wreaked havoc on New York City by destroying buildings and infrastructure, and crippling transportation, communication and emergency systems. In the aftermath of the storm, most attention was focused on the most devastated areas of New York City - downtown Manhattan, The Rockaways, Coney Island, and Staten Island. Now two years later, some of these communities are still rebuilding. Though portions of the Upper East Side and East Harlem were inundated by Hurricane Sandy, neither neighborhood merited much attention from the media and this has downplayed the potential future risk to these communities. In fact, East Harlem was one of the largest contiguously flooded areas in the borough of Manhattan. Most of the Esplanade itself, except for elevated portions at Carl Schurz, was flooded. A water depth of 2.4 feet was recorded on the Esplanade at 90th Street (USGS Sandy Storm Tide Mapper). East Harlem is a community that is highly vulnerable to flooding because it has a low elevation and is built on top of former marshland adjacent to very active tidal straits. This fact was noted in further detail elsewhere in this report. As our collective memory of the damage caused by Sandy fades, it is important to include East Harlem in future flood protection strategies.

Under Phase 1 Initiative 20, the Special Initiative for Rebuilding and Resiliency (SIRR) report recommends an Integrated Flood Protection System parallel to the current FDR alignment between 90th Street and 127th Street (SIRR 59). As per SIRR, and contingent on funding, target completion for this project is 2016. Integrated Flood Protection Systems are composed of multiple elements but largely rely on permanent and deployable flood walls. Landscaped berms or levees can be incorporated into this system as well. While the City, State and Federal Government focus attention on potential resiliency solutions for other communities elsewhere in the harbor, it is yet to be determined whether this goal of an Integrated Flood Protection System for East Harlem will be achieved by 2016.

The New York City Office of Emergency Management (OEM) has designated 6 Hurricane Evacuation Zones ranked by risk of storm surge impact. South of 91st Street the Esplanade is considered Zone 1 and to the North it is Zone 2. Large portions of East Harlem are classified as being within an Evacuation Zone and these risk areas extend as far inland as Central Park. Generally, the neighborhoods contiguous to the Esplanade on the Upper East Side are much less vulnerable because the natural topography of Manhattan is at a higher elevation than to the north. In the face of another storm with high storm surge potential, evacuating the entire neighborhood of East Harlem would be a tremendous challenge. To make matters worse, storm severity and frequency is expected to increase while ocean levels are globally on the rise. In essence, preparing for the next Sandy may not be enough.

Fig. 3.19 Hurricane Evac. Zones





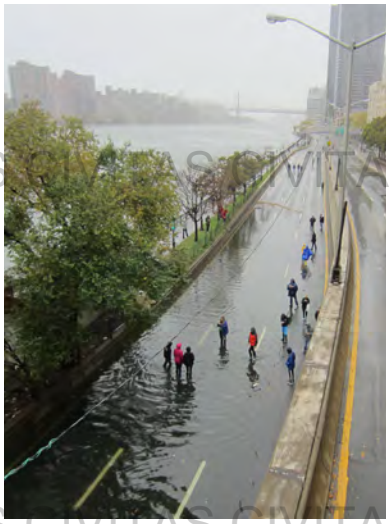


Fig. 3.20 FEMA Preliminary Flood Maps