

ADAM LEITMAN BAILEY, P.C.

MEMORANDUM TO CLIENT Attorney-Client Privileged

TO: Structural Occupancy Category I and II Building Owners
FROM: Adam Leitman Bailey, P.C.
DATE: April 8, 2013
SUBJECT: Changes to NYC Zoning and Building Regulations after Hurricane Sandy

Question Presented:

What are the changes to New York City's zoning and building regulations in the wake of Hurricane Sandy?

Answer:

The Rules of the City of New York have been amended to include Section 3606-04 (effective as of January 31, 2013), which increases the design flood elevations for structural occupancy category I and II buildings.¹ On January 28, 2013, the Federal Emergency Management Agency (FEMA) published Post-Hurricane Sandy Advisory Base Flood Elevation Maps for portions of NYC (ABFE Map), and the remaining maps are underway. These maps provide the best up-to-date information on safe elevations for flood-resistant construction.² Most buildings in the ABFE Map will be required to be elevated.

¹ See 1 RCNY § 3606-04 (explained more fully below). Structural occupancy category descriptions are contained in Table 1604.5 of the NYC Building Code.

² The Post-Hurricane Sandy ABFE Map can be accessed at the following website: <http://fema.maps.arcgis.com/home/webmap/viewer.html?webmap=2f0a884bfb434d76af8c15c26541a545> (see also region.2coastal.com).

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In response to the need to elevate buildings based on the ABFE Maps, Mayor Bloomberg has signed an Executive Order waiving certain provisions of the Zoning Resolution that could have prevented, hindered or delayed disaster recovery. Without the executive order, a number of existing and new buildings would not be able to be built in compliance with the FEMA-recommended elevations without creating conflicts with current zoning height limits and other requirements. Now, existing buildings can be reconstructed or retrofitted to meet the new advisory elevations, and new buildings can be built to adhere to these standards as well.

The elevation requirements set forth in 1 RCNY Section 3606-04 became effective on January 31, 2013, and are mandatory for all projects that had not obtained a permit prior to then (January 31, 2013). The new elevation requirements also apply to all projects where a permit had already been issued (prior to January 31, 2013) but either (i) the construction work has not begun for 180 days or more since the permit issuance date, or (ii) the construction work has been suspended or abandoned for 180 days or more. Thus, any work on structural occupancy category I and/or II building from this point on will be subject to the numerous elevation requirements of 1 RCNY Section 3606-04. The specific requirements of this Section are set forth as follows:

- Table 2-1 (of 1 RCNY Section 3606-04) lays out the “Minimum Elevation of the Top of Lowest Floor Relative to Design Flood Elevation (DFE) for A-Zone” buildings.
- Table 4-1 (of 1 RCNY Section 3606-04) lays out the “Minimum Elevation of Bottom of Lowest Supporting Horizontal Structural Member of Lowest Floor Relative to Design Flood Elevation (DFE) for V-Zone” buildings.

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- Table 5-1 (of 1 RCNY Section 3606-04) lays out the “Minimum Elevation, Relative to Design Flood Elevation (DFE), Below Which Flood-Damage-Resistant Materials Shall Be Used”.
- Table 6-1 (of 1 RCNY Section 3606-04) lays out the “Minimum Elevation of Floodproofing, Relative to Design Flood Elevation (DFE) for A-Zone” buildings.
- Table 7-1 (of 1 RCNY Section 3606-04) lays out the “Minimum Elevation of Utilities and Attendant Equipment Relative to Design Flood Elevation (DFE)”.

Further, in December 2012, Mayor Bloomberg created the NYC Building Resiliency Task Force to develop recommendations for what could and should be done to improve building resiliency throughout New York.³ The Task Force is currently still in the process of developing the new regulations and projects to issue its full report with the regulations by summer 2013. For now, the Task Force has issued a “Summary of Proposals” that the Task Force’s Steering Committee approved on February 12, 2013.⁴ The Summary of Proposals is reprinted below in its entirety:

Mitigate Hazards

Preventative measures can mitigate extreme weather events and grid strain, and minimize their impact

³ The NYC Building Resiliency Task Force is comprised of over 215 experts including real estate owners, property managers, architects, engineers, contractors, city officials, code consultants, etc. The Task Force is divided into four Committees, which are organized by building sector: Residential, Commercial, and Critical (there is also a Special Committee on Homes), and three Working Groups, which are organized around building systems: Structure, Façade, and Interiors; Electrical & IT; and HVACR, Plumbing & Fire Protection. Broadly speaking, the Working Groups will determine what *could* be done to improve building resiliency, and Committees will consider what *should* be done in each building type.

⁴ An approval by the Steering Committee suggests that these proposals will likely become regulations (that will be set forth more fully in the report issued by the Task Force this summer 2013).

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- Peak load management, including industry education
- Improve efficiency of systems used during utility failures to extend useful life of backup supply of fuel or water
- Reduce urban heat island effect
- Stormwater reduction through building water retention (for stormwater effect), green roofs, or permeable paving

Preventing Damage During Extreme Weather Events

Resist damage to buildings, and facilitate recovery

- Elevation of critical items
- Dry flood proofing, including permanent or temporary flood barriers such as sandbags. Allow barriers within sidewalks.
- Wet flood proofing
- Anchorage of equipment and other potential wind-borne projectiles; strengthening/designing of façade and structural elements to reduce associated damage; public information on buildings with wind vulnerabilities
- Mold-resistant materials in areas that may become wet
- Ensuring mechanical equipment operability during extreme hot and cold temperatures
- Backflow preventers
- Earthquake preparedness
- Salt- and wind-resistant landscaping

Backups Against Utility Failures

Avoid evacuations / minimize reoccupation time through backup power for life safety systems and some level of drinking water supply, space conditioning, vertical transportation, and common area lighting during outages (functional occupancy). Potential backup for convenience loads and basic IT.

- Onsite backup generators, including air quality and testing; held to different standard than "emergency" generators
- Onsite standby / continuous power (cogeneration, solar PV) from different fuel source to backup; improved islanding ability; DC charging stations
- Facilitate sharing of backup and standby power between buildings
- Prepare to utilize temporary services
- Ensure stairwell lighting

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Failsafe Life Safety Measures

Non-powered building systems provide the last line of defense for life safety during extreme events. Generators fail, fuel may not be available for generators, and there are limits to the city's ability to evacuate and shelter.

- Operable windows
- Well-insulated buildings
- Maintain water supply for drinking and sanitary purposes, and ensure waste disposal functions
- Education on 'passive operation' of buildings

Emergency Preparedness Plans (EPP)

Operational plans can help mitigate damage to buildings and protect people.

- EPPs for all buildings
- Submit EPPs to City annually (like lead paint forms)
- Communication of upcoming events by the city, including suspension of rules such as water discharge to streets so owners can prepare
- Pre-negotiated agreements with contractors to facilitate rapid repair after events

The Task Force has stated that one of its goals is to address new construction as well as the retrofitting of existing buildings. It has noted, however, that many residential buildings have limited financial resources for upgrades, particularly co-op and condominium buildings and affordable/rent-controlled housing. To this end, it has stated that most new measures will likely apply only to new construction and substantial improvements/alternations.⁵ Any retroactive measures will most likely be primarily operations-focused.

⁵ “Substantial improvement” is defined in the NYC Building Code Section G201.2 as “[a]ny repair, reconstruction, rehabilitation, addition or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the improvement or repair is started.”

1 RCNY §3606-04

CHAPTER 3600

Appendices

§3606-04 American Society of Civil Engineers (“ASCE”) 24 amendments relating to mandatory freeboard. Pursuant to Section 28-103.19 of the New York City Administrative Code, Table 2-1 of Section 2.3, Table 4-1 of Section 4.4, Table 5-1 of Section 5.1, Table 6-1 of Section 6.2, and Table 7-1 of Section 7.1 of ASCE 24 as amended by Section BC G501.1 of the New York City Building Code, are hereby amended to read as follows:

**TABLE 2-1
MINIMUM ELEVATION OF THE TOP OF LOWEST FLOOR
RELATIVE TO DESIGN FLOOD ELEVATION (DFE)—A-ZONES^a**

| STRUCTURAL OCCUPANCY CATEGORY ^b | MINIMUM ELEVATION OF LOWEST FLOOR |
|--|-----------------------------------|
| I | DFE=BFE |
| II (1- and 2-family dwellings) | DFE=BFE+ 2 ft |
| II ^c (all others) | DFE=BFE+ 1 ft |
| III ^c | DFE=BFE+ 1 ft |
| IV ^c | DFE=BFE+ 2 ft |

- a. Minimum elevations shown in Table 2-1 do not apply to V Zones (see Table 4-1). Minimum elevations shown in Table 2-1 apply to A-Zones unless specific elevation requirements are given in Section 3 of this standard.
- b. See Table 1-1 or Table 1604.5 of the *New York City Building Code*, for structural occupancy category descriptions.
- c. For nonresidential buildings and nonresidential portions of mixed-use buildings, the lowest floor shall be allowed below the minimum elevation if the structure meets the floodproofing requirements of Section 6.

**TABLE 4-1
MINIMUM ELEVATION OF BOTTOM OF LOWEST SUPPORTING
HORIZONTAL STRUCTURAL MEMBER OF LOWEST FLOOR
RELATIVE TO DESIGN FLOOD ELEVATION (DFE)—V ZONES**

| STRUCTURAL OCCUPANCY CATEGORY ^a | MEMBER ORIENTATION RELATIVE TO THE DIRECTION OF WAVE APPROACH | |
|--|---|----------------------------|
| | Parallel ^b | Perpendicular ^b |
| I | DFE=BFE | DFE=BFE |
| II (1- and 2-family dwellings) | DFE=BFE+ 2 ft | DFE=BFE+ 2 ft |
| II (all others) | DFE=BFE | DFE=BFE+ 1 ft |
| III | DFE=BFE+ 1 ft | DFE=BFE+ 2 ft |
| IV | DFE=BFE+ 1 ft | DFE=BFE+ 2 ft |

- a. See Table 1-1, or Table 1604.5 of the *New York City Building Code*, for structural occupancy category descriptions.
- b. Orientation of lowest horizontal structural member relative to the general direction of wave approach; parallel shall mean less than or equal to +20 degrees from the direction of approach; perpendicular shall mean greater than +20 degrees from the direction of approach.

**TABLE 5-1
MINIMUM ELEVATION, RELATIVE TO DESIGN FLOOD
ELEVATION (DFE), BELOW WHICH FLOOD-DAMAGE-RESISTANT
MATERIALS SHALL BE USED**

| STRUCTURAL OCCUPANCY CATEGORY ^a | A-ZONE | V-ZONES | |
|--|---------------|-----------------------------------|--|
| | | Orientation Parallel ^b | Orientation Perpendicular ^b |
| I | DFE=BFE | DFE=BFE | DFE=BFE |
| II (1- and 2-family dwellings) | DFE=BFE+ 2 ft | DFE=BFE+ 2 ft | DFE=BFE+ 2 ft |
| II (all others) | DFE=BFE+ 1 ft | DFE=BFE+ 1 ft | DFE=BFE+ 2 ft |
| III | DFE=BFE+ 1 ft | DFE=BFE+ 2 ft | DFE=BFE+ 3 ft |
| IV | DFE=BFE+ 2 ft | DFE=BFE+ 2 ft | DFE=BFE+ 3 ft |

a. See Table 1-1, or Table 1604.5 of the *New York City Building Code*, for structural occupancy category descriptions.
Orientation of lowest horizontal structural member relative to the general direction of wave approach; parallel shall mean less than or equal to +20 degrees from the direction of approach; perpendicular shall mean greater than +20 degrees from the direction of approach.

**TABLE 6-1
MINIMUM ELEVATION OF FLOODPROOFING, RELATIVE TO
DESIGN FLOOD ELEVATION (DFE)—A-ZONES**

| STRUCTURAL OCCUPANCY CATEGORY ^a | MINIMUM ELEVATION OF FLOODPROOFING ^b |
|--|---|
| I | DFE=BFE+ 1 ft |
| II ^c | DFE=BFE+ 1 ft |
| III | DFE=BFE+ 1 ft |
| IV | DFE=BFE+ 2 ft |

a. See Table 1-1, or Table 1604.5 of the *New York City Building Code*, for structural occupancy category descriptions.
b. Wet or dry floodproofing shall extend to the same level.
Dry floodproofing of residential buildings and residential portions of mixed use buildings shall not be permitted.

**TABLE 7-1
MINIMUM ELEVATION OF UTILITIES AND ATTENDANT EQUIPMENT RELATIVE TO DESIGN FLOOD ELEVATION (DFE)**

| STRUCTURAL OCCUPANCY CATEGORY ^a | LOCATE UTILITIES AND ATTENDANT EQUIPMENT ABOVE ^b | | |
|--|---|-----------------------------------|--|
| | A-Zones | V-Zones | |
| | | Orientation Parallel ^c | Orientation Perpendicular ^c |
| I | DFE=BFE | DFE=BFE | DFE=BFE |
| II (1- and 2-family dwellings) | DFE=BFE+ 2 ft | DFE=BFE+ 2 ft | DFE=BFE+ 2 ft |
| II (all others) | DFE=BFE+ 1 ft | DFE=BFE+ 1 ft | DFE=BFE+ 2 ft |
| III | DFE=BFE+ 1 ft | DFE=BFE+ 2 ft | DFE=BFE+ 3 ft |
| IV | DFE=BFE+ 2 ft | DFE=BFE+ 2 ft | DFE=BFE+ 3 ft |

a. See Table 1-1, or Table 1604.5 of the *New York City Building Code*, for structural occupancy category descriptions.
b. Locate utilities and attendant equipment above elevations shown unless otherwise provided in the text.
Orientation of lowest horizontal structural member relative to the general direction of wave approach; parallel shall mean less than or equal to +20 degrees from the direction of approach; perpendicular shall mean greater than +20 degrees from the direction of approach.