

Daniel Sarnoff

From: Thomas A. Murphy
Sent: Thursday, June 1, 2023 8:52 AM
To: Tony Gelber
Cc: Mayor and Board; Leilani Yizar-Reid; Jerry Barberio; FloodMitigation; Daniel Sarnoff
Subject: Re: FMAC Resolution - Stormwater (SW) Regulations and Codes

Dan,

Please put this on our works
Session for the 12th

Respectfully,

Tom Murphy

Mayor, Village of Mamaroneck

He/His/Him

On Jun 1, 2023, at 8:36 AM, Tony Gelber <TGelber@vomny.net> wrote:

Dear Mayor and Board

The FMAC unanimously approved the Motion below, **Resolution - Stormwater (SW) Regulations and Codes** at our May 2023 meeting.

FMAC asks that you review the points of the Resolution and develop an action and implementation plan asap, to help control stormwater and reduce flooding throughout the VoM.

The recent flooding, April and May, indicates that flooding occurs in relatively small storms due to the runoff throughout the VoM.

Thank you very much.

Sincerely,

FMAC Members

FMAC Resolution - Stormwater (SW) Regulations and Codes

FMAC requests that you review and develop an action and implementation plan for items 1,2,3 and 4 throughout the VoM, in and out of the floodplain, asap, and review the FMAC Member Suggestions for Regulation and Code Changes below items 1- 4 :

1. Review and tighten stormwater regulations and codes throughout the VoM, both in and out of the flood plain, see below for detailed suggestions.

- Note in most parts of the VoM every drop of precipitation, in and out of the floodplain, flows downhill into one of our 3 Rivers contributing to flooding.

2. Develop and fund, VoM and grants, an incentive based program to help all property owners increase SW retention and detention with green and gray infrastructure projects such as dry wells, bio-swales, permeable surfaces, gravel based parking lots, roof retention, enhancement of local infrastructure serving the property and tanks, etc. These actions will retain/detain water and reduce flooding.

The incentives to property owners, will include financial incentives as well as the Code 'allowances, see below for suggestions.

- Note 1 - NYC has a very successful model
- Note 2 - a review of soils and aquifer water levels throughout the VoM should be studied before ground level green infrastructure is implemented.

3. Enhance code enforcement from the permitting process through construction and occupancy to ensure that existing and new codes are fully enforced and existing floatables, property and debris of all types are either secured, enclosed by a fence or removed in its entirety.

4. Review and amend the very recent code changes to the C1 and C2 districts to comply to the existing and proposed SW Regs in both flood zones (i.e. Zones AE, A1-A30, AH, AO, VE, V1-V30) and non-flood designated zones.

- Note - FMAC supports low income housing but not at the risk of increased flooding for all residents - low and moderate income.

Regulations and Codes Suggestions from FMAC Members for Review

General

- 1) 500 year storm water dry well system according to the size of the structure.
- 2) mandatory flat / water detention roof. (capacity to be discussed with village engineer)
- 3) Bio Swales.
- 4) pervious pavers/black top for driveway and all walkways including public sidewalks.
- 4) NO raising of grade.
- 5) Multi family developments that are not in the flood zone but their water drain into the flood zone must comply to new local laws.
- 6) New residential building (3 units and under) , Multi family units and commercial build must conform to existing NYS flood zone regulations
- 7) No variances in the floodplain
- 8)The footprint of natural pervious surfaces must not decrease
- 9)The village sewage/drainage infrastructure must have the ability to take on the additional volume resulting in the building/rehab

Code 'Allowances' for Review

- allowances for height when building to encourage the installation of electrical and HVAC components at higher levels [above BFE] to reduce the likelihood of repeat loss
- side-yard backyard setbacks should be relaxed to provide for the installation bio-swales and other flood mitigation and retention measures

Specific Code References

186-5

(1) Current

Anchoring. New structures and substantial improvement to structures in areas of special flood hazard shall be anchored to prevent flotation, collapse, or lateral movement during the base flood. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.

(1) Proposed

Anchoring. New structures and substantial improvement to structures in areas of special flood hazard shall be anchored to prevent flotation, collapse, or lateral movement during the base flood. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces. A signature from an engineer, architect or hydrologist must certify that the anchoring will prevent the above.

(b) (Current)

2a New construction and substantial improvements to structures shall be constructed with materials and utility equipment resistant to flood damage.

(New) 2A-1: Material Construction

2a (new) New construction and substantial improvements to structures shall be constructed with Class 5 materials. This would include all structural and finish materials, fasteners and connectors For more information about building material types that are acceptable please visit https://www.fema.gov/sites/default/files/2020-07/fema_tb_2_flood_damage-resistant_materials_requirements.pdf

Background

Class 5 Highly resistant to floodwater¹ damage, including damage caused by moving water.² These materials can survive wetting and drying and may be successfully cleaned after a flood to render them free of most harmful pollutants.³ Materials in this class are permitted for partially enclosed or outside uses with essentially unmitigated flood exposure.

Class 4 Resistant to floodwater¹ damage from wetting and drying, but less durable when exposed to moving water.² These materials can survive wetting and drying and may be successfully cleaned after a flood to render them free of most harmful pollutants.

Class 3 Materials in this class may be exposed to and/or submerged in floodwaters in interior spaces and do not require special waterproofing protection. ³ Resistant to clean water⁴ damage, but not floodwater damage. Materials in this class may be submerged in clean water during periods of flooding. These materials can survive wetting and drying, but may not be able to be successfully cleaned after floods to render them free of most³ harmful pollutants.

Class 2 Not resistant to clean water damage. Materials in this class are used in predominantly dry spaces that may be subject to occasional water vapor and/or slight seepage. These materials cannot survive the wetting and drying associated with floods.

Class 1 Not resistant to clean water damage or moisture damage. Materials in this class are used in spaces with conditions of complete dryness. These materials cannot survive the wetting and drying associated with floods

(New) 2A-2- Utility Equipment

New construction and substantial improvements to structures shall be constructed with utility equipment Above BFE. If this is not possible utility equipment built at or below BFE must be dry floodproofed or constructed in a means that would result in a watertight structure.

The NFIP requires that non-residential buildings in Zone A be designed with their lowest floors at or above the BFE or, if not elevated, to be dry floodproofed. Dry floodproofing is achieved by designing and constructing measures that result in watertight structures, including attendant utilities and equipment, with all elements substantially impermeable to the passage of water. Structural components must have the capacity to resist flood loads and penetrations through walls and floors below the required flood elevation and must be watertight

If a proposed building site is in a flood-prone area, all new construction and substantial improvements shall (i) be designed (or modified) and adequately anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, (ii) be constructed with materials resistant to flood damage, (iii) be constructed by methods and practices that minimize flood damages, and (iv) be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities 2-2 PROTECTING BUILDING UTILITY SYSTEMS FROM FLOOD DAMAGE Principles and Practices for the Design and Construction of Flood Resistant Building Utility Systems that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.” [emphasis added]

https://www.fema.gov/sites/default/files/2020-07/fema_p-348_protecting_building_utility_systems_from_flood_damage_2017.pdf

(Old) 2(b)

(b) New construction and substantial improvements to structures shall be constructed using methods and practices that minimize flood damage.

(New) 2(b)

(b) New construction and substantial improvements to structures shall be constructed using methods and practices that minimize flood damage including.

1. All new surfaces, including driveways, parking areas, sidewalks, foundations etc. would have to be pervious (excluding commercial building parking/driveway areas that have substantial traffic)

2. All roofs would have to have a flood mitigation plan
3. Property would have to hold water on property
4. All exterior edifices would have to be anchored
5. It would have to be determined if any additional water would drain from the property that exceeds the current amount water that is being drained. If so, additional drainage capacity would have to be constructed at the building owners' cost.
6. All electronic systems must have a hard-wired back-up that would allow it to run without electric power for at least 24 hours.

Current 2c

(C)For enclosed areas below the lowest floor of a structure within Zone A1-A30, AE or AH, and also Zone A if base flood elevation data are available, new and substantially improved structures shall have fully enclosed areas below the lowest floor that are useable solely for parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding, designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of flood waters. Designs for meeting this requirement must either be certified by a licensed professional engineer or architect or meet or exceed the following minimum criteria: [1] a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding; and [2] the bottom of all such openings no higher than one foot above the lowest adjacent finished grade. Openings may be equipped with louvers, valves, screens or other coverings or devices, provided they permit the automatic entry and exit of floodwaters. Enclosed areas subgrade on all sides are considered basements and are not permitted

2c-2 (new) For any existing building that is applying for substantial improvements on the part of their property below the flood plain (i.e. basement) a flood mitigation plan (i.e. pump system) must already exist or be added to that part of the property. All pump systems must have a hard-wired back-up that would allow it to run without electric power for at least 24 hours.

2c-3 (new). All surface walls must be coated with epoxy or a wall coating of equal waterproofing rating.

Flood Zones (background)

Zones AE and A1-A30: Areas subject to inundation by the 1 percent-annual-chance flood event determined by detailed methods. BFEs are shown within these zones. Mandatory flood insurance purchase requirements apply. (Zone AE is used on new and revised maps in place of Zones A1-A30).

Zone AH: Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are 1-3 feet. BFEs derived from detailed hydraulic analyses are shown in this zone. Mandatory flood insurance purchase requirements apply.

Zone AO: Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are 1-3 feet. Average flood depths derived

from detailed hydraulic analyses are shown within this zone. Mandatory flood insurance purchase requirements apply.

VE, V1-V30

Areas along coasts subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action. Base Flood Elevations (BFEs) derived from detailed hydraulic analyses are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply.

Zones B, C, and X: Areas identified in a community's FIS as areas of moderate or minimal hazard from the principal source of flood in the area. However, buildings in these zones could be flooded by severe, concentrated rainfall coupled with inadequate local drainage systems. Local stormwater drainage systems are not normally considered in a community's FIS. The failure of a local drainage system creates areas of high flood risk within these rate zones. Flood insurance is available in participating communities but is not required by regulation in these zones. Zone X is used on new and revised maps in place of Zones B and C.

3.C (4) Utilities (old)

Within Zones AH and AO, adequate drainage paths are required to guide flood waters around and away from proposed structures on slopes.

3.C (4) (new)

Within Zones AH and AO, adequate drainage paths are required to guide flood waters around and away from proposed structures on slopes. This plan would need to be approved by a licensed architect, hydrologist or engineer.