

Flooding & Floodplain Management



Village of Mamaroneck

Prepared by: Planning Department

June, 2019

Agenda



History of Flooding



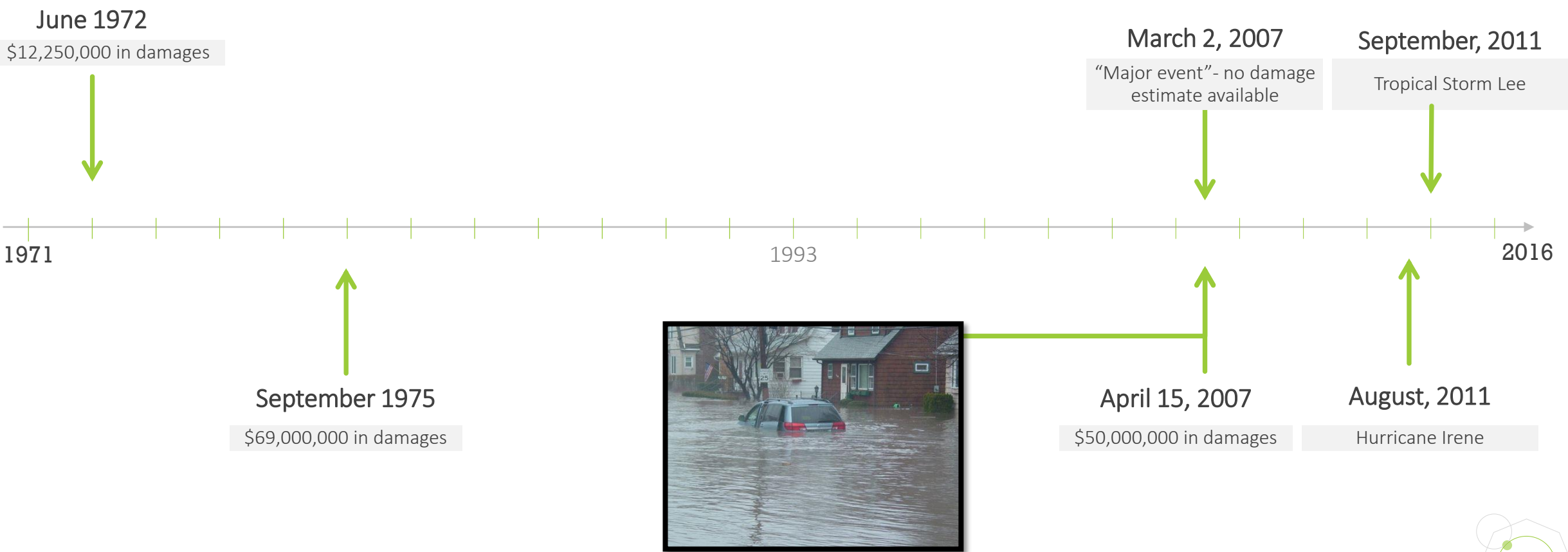
**Mapping
Floodplain Management**



**Stormwater Management
Flood Preparedness**

Flooding in Mamaroneck

1971 to 2016: 16 Flood Events Occurred



Flood Mapping Resources

FIRM

- Flood Insurance Rate Map (FIRM) is the official map on which FEMA has delineated both the special hazard areas and the risk premium zones applicable to the community
- Available in FIRMettes online here:
<https://msc.fema.gov/portal/home>

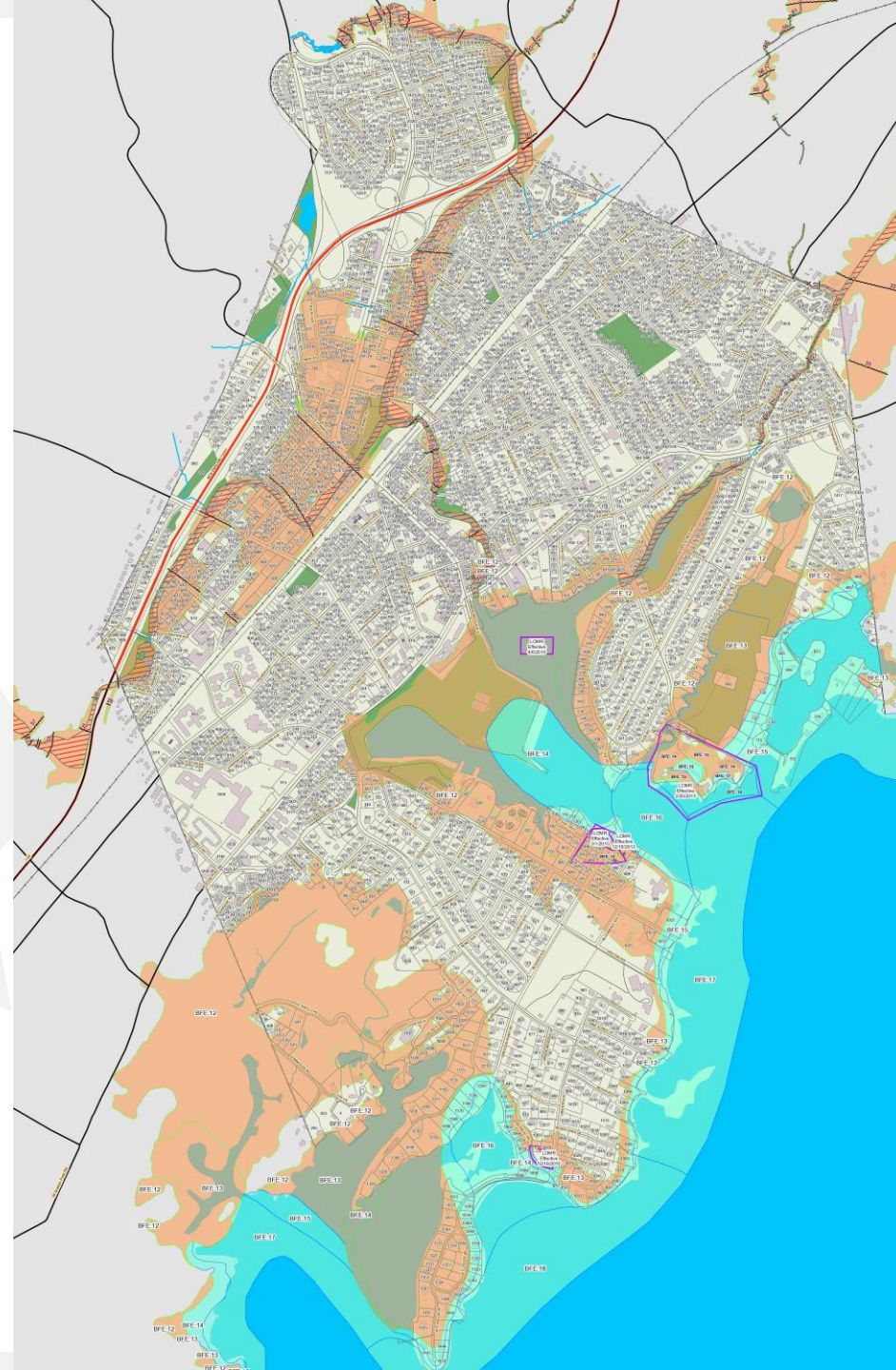
VOM GIS

- Village of Mamaroneck property data with FIRM data overlay.
- Available at: <http://bit.ly/1J65EnN>
- Full Village of Mamaroneck GIS System:
<http://GIS.VillageofMamaroneck.org>

What are the types of flood zones?

- There are several different types of flood zones defined by FEMA, in the Village of Mamaroneck we have two types of flood zones:
 - AE Zone: Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. Base Flood Elevations (BFEs) are shown. **Mandatory flood insurance purchase requirements and floodplain management standards apply.**
 - VE Zone: Areas 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.**
 - X Shaded: Areas of moderate flood hazard from the principal source of flood in the area, determined to be within the limits of one percent and 0.2 percent annual chance floodplain.
- Floodway: The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. **Communities must regulate development in these floodways to ensure that there are no increases in upstream flood elevations.**

Flood Zones In VoM



Flood Plain Management

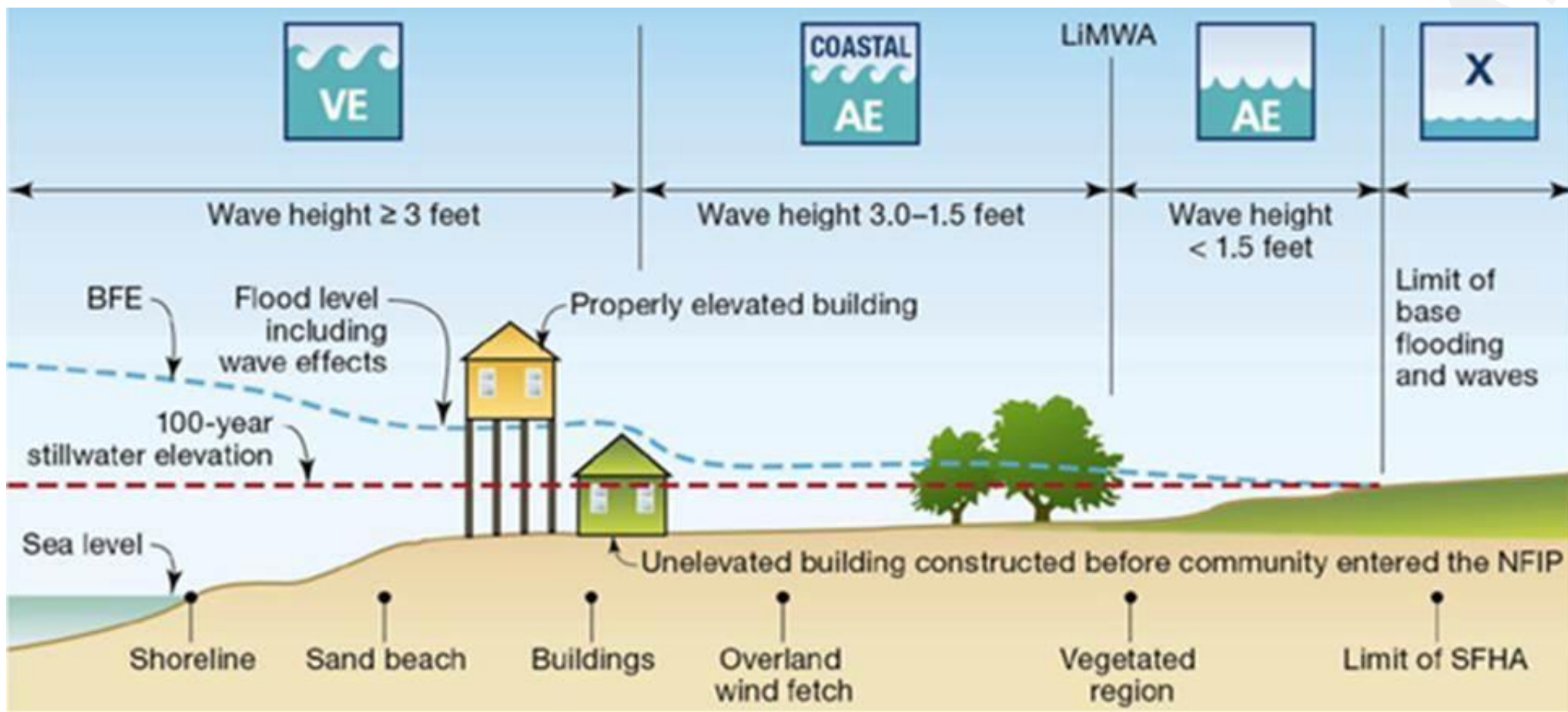


- Village participates in Community Rating System (CRS) – a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. Currently a class 8 CRS community, effectuating a 10% discount on flood insurance premiums.
- Floodplain management activities include:
 - Mapping open space and natural functions open space.
 - Mapping and tracking repetitive loss areas.
 - Tracking substantial improvements and new flood compliant construction, along with associated elevation certificates.
 - Wetland Permits, in compliance with [Chapter 192.](#)

Flood Plain Management Con't



- Flood Development Permits-Application is available online here:
http://www.village.mamaroneck.ny.us/sites/mamaroneckny/files/uploads/flood_development_permit_application.pdf
- Compliance with [Chapter 186](#) of Village Code: Flood Damage Prevention
 - Residential: New construction and substantial improvements shall be elevated on pilings, columns or shear walls such that the bottom of the lowest horizontal structural member supporting the lowest elevated floor (excluding columns, piles, diagonal bracing attached to the piles or columns, grade beams, pile caps and other members designed to either withstand storm action or break away without imparting damaging loads to the structure) is elevated to or above two feet above base flood level so as not to impede the flow of water.
 - Nonresidential: Within Zones A1-A30, AE and AH, and also Zone A if base flood elevation data are available, new construction and substantial improvements of any nonresidential structure, together with attendant utility and sanitary facilities, shall either:
 - (a) Have the lowest floor, including basement or cellar, elevated to or above two feet above the base flood elevation; or
 - (b) Be floodproofed so that the structure is watertight below two feet above the base flood level with walls substantially impermeable to the passage of water. All structural components located below the base flood level must be capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.



Natural Functions Open Space Benefits

WATER RESOURCES

Natural Flood and Erosion Control

- Provide flood storage and conveyance
- Reduce flood velocities
- Reduce peak flows
- Reduce sedimentation Water Quality Maintenance
- filter nutrients and impurities from runoff
- Process organic wastes
- Moderate temperature fluctuations Groundwater Recharge
- Promote infiltration and aquifer recharge
- Reduce frequency and duration of low surface flows

BIOLOGICAL RESOURCES

Biological Productivity

- Promote vegetative growth through rich alluvial soils
- Maintain biodiversity
- Maintain integrity of ecosystems Fish and Wildlife Habitats
- Provide breeding and feeding grounds
- Create and enhance waterfowl habitat
- Protect habitats for rare and endangered species



Studies show that natural open space can be more effective at controlling or attenuating flooding and is less expensive over the long run than traditional manmade flood control structures.



Local officials and their constituents who are aware of the benefits that naturally functioning floodplains provide to their communities want to protect them. This can generate a continuous level of interest to protect floodplains.



Disrupting natural features has adverse impacts on the flooding regime.




52 Acres of
Natural Functions
Open Space in VoM
~7% of the Flood Plain

Guion Creek,
Source: Planning Dept.

Stormwater Management

- Governed by [Chapter 294](#) of Village Code:
 - All land development activities resulting in land disturbance of 1,000 square feet or more shall be required to submit a stormwater pollution prevention plan (SWPPP) meeting all the requirements of this chapter.
 - All land development activities resulting in land disturbance of more than 200 square feet but less than 1,000 square feet shall be required to submit a stormwater management, erosion, sediment and pollution control plan, including supporting calculations. The postconstruction stormwater runoff controls in § **294-8B(2)** shall apply.
 - The Village Engineer or other individual designated by the Village Manager shall be designated as the local Stormwater Management Officer (SMO) who shall accept and review all stormwater pollution prevention plans (SWPPP) and stormwater management, erosion, sediment and pollution control plans and forward such plans to the applicable local land use board. The Stormwater Management Officer may:
 - **(a)** Review the plans;
 - **(b)** Engage the services of a consulting engineer to review the plans, specifications and related documents at a cost to be reimbursed to the Village for such services.
 - **(2)** In either case, said SWPPP or stormwater management, erosion, sediment and pollution control plan shall be certified by a licensed professional under the employ of the applicant.
- Site Plan Requirements:
 - Future discharge rates for any development shall not exceed the existing values for each of the two-, ten-, twenty-five-, fifty- and one-hundred-year storm events unless so specified by the Village Engineer in consultation with the Westchester County Soil and Water Conservation District.

Flood Preparedness


- Draft Disaster Preparedness Handbook currently under review.
 - Five mission areas: Prevention, Protection, Response, Recovery, Mitigation
 - Information and pamphlets on preparedness are available in the Building Department. Select excerpts below:
 - Be informed about hazards in the region.
 - Create a personal support network and a communication plan (particularly important for people with disabilities).
 - Prepare a go-kit. Items might include:
 - Water - one gallon of water per person per day for at least three days, for drinking and sanitation
 - Food - at least a three-day supply of non-perishable food
 - Battery-powered or hand crank radio and a NOAA Weather Radio with tone alert
 - Flashlight
 - First aid kit & medicine
 - Extra batteries
 - Whistle to signal for help
 - Dust mask to help filter contaminated air and plastic sheeting and duct tape to shelter-in-place
 - Moist towelettes, garbage bags and plastic ties for personal sanitation
 - Wrench or pliers to turn off utilities
 - Manual can opener for food
 - Local maps
 - Cell phone with chargers and a backup battery
 - Prepare a pet emergency supply kit (food, water, medicines, collar with ID, pet carrier, etc.)
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- A red American Red Cross Emergency Preparedness kit bag is shown, partially open, revealing various supplies. The bag has the American Red Cross logo and the text "Emergency Preparedness" on it. Inside the bag, there are two clear plastic water bottles, a flashlight, a first aid kit, and other emergency supplies. The bag is set against a white background.




Thank You




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