QUICKNOTES

Planning fundamentals for public officials and engaged citizens

This PAS QuickNotes *was prepared by Terri Turner,* AICP*, development administrator/ floodplain manager/hazard mitigation specialist for Augusta, Georgia.*

An outdoor amphitheater in Augusta, Georgia, designed to handle flooding from the Savannah River, floods after six weeks of constant rain in June and early July 2013. (Photo taken by Terri Turner, AICP*.)*

FLOODPLAIN MANAGEMENT

INTRODUCTION

Flooding is, and continues to be, the most pervasive and most costly natural disaster in the United States. Floods occur in all 50 states, can be associated with other natural disasters, and can take place at all times of the year. Nationwide, flood losses have averaged in excess of $6 billion annually for many years. This is despite of the investment of billions of dollars in structural flood control and the application of many other structural and nonstructural measures over recent decades. The frequency and severity of storm events, the certainty of sea-level rise along much of our nation's coastline, and community development pressures in areas that are at a high or moderate risk for flooding are only anticipated to increase over time, resulting in more frequent flood events and more impacts and associated costs to communities from those flood events. Effective floodplain management can help a community reduce the amount of flooding it experiences and thus reduce the impacts and associated costs of flood-related impacts.

AT THE CORE OF FLOODPLAIN MANAGEMENT

Floodplain management can be defined as activities and efforts (preventative and corrective measures) undertaken to reduce flood losses, minimize damage from erosion, reduce loss of life, diminish human pain and suffering from flooding, reduce the economic disruption from flood events, and preserve the natural and beneficial values and functions of floodplains, wetlands, riparian buffers, and similar sensitive areas.

At a minimum, communities engage in floodplain management by participating in the National Flood Insurance Program (NFIP). Communities agree to meet the development standards of the NFIP in exchange for the ability of the community's residents to purchase federally backed flood insurance. Every community that participates in the NFIP must have an official flood map, called a Flood Insurance Rate Map (FIRM), and adopt a local floodplain ordinance that meets their state's model ordinance (based on the state's enabling legislation) as well as the minimum standards of the NFIP.

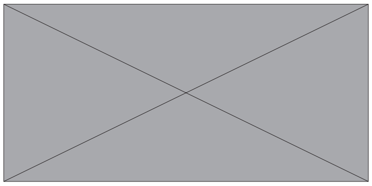
The floodplain ordinance, whether a stand-alone document or regulations that are a part of the zoning ordinance, building codes, subdivision regulations, or utility regulations, is developed by the local community and should be tailored to the community's unique characteristics.

The floodplain ordinance must state a purpose and limits of the regulatory authority, set minimum regulatory standards, and name the administering official within the community responsible for enforcing the code. Further, the ordinance must include definitions; reference adoption of the flood maps and supporting profiles and flood data; include standards for construction, building protection, subdivisions, installation of utilities, and the siting of manufactured homes and manufactured home parks pertinent to each flood zone in the community; outline the requirements for a development permit; and outline enforcement responsibilities and procedures, clarifying penalties for violations.

The FIRM delineates the degree of flood risk (high, moderate, low, and undetermined) of all areas of the community. The area designation determines whether flood insurance is required, and if it is, dictates the cost of the flood insurance policy based on risk. Flood insurance is required in high-risk flood areas and is highly recommended in all other areas. More than 21,000 communities nationwide participate in the NFIP with over 5.5 million flood insurance policies in force, to date.

MANAGING BEYOND THE MINIMUMS

As the frequency and severity of storm events, sea-level rise, and community development pressures increase, communities must go beyond participation in the NFIP to effectively manage flooding and its



associated costs and impacts. Communities should develop a comprehensive floodplain management program that includes the following:

- **zoning and subdivision regulations:** conservation subdivisions provisions; increased setbacks for development within a certain distance of a body of water (stream, creek, lake, river, or along the coast)
- **stormwater regulations:** increased standards for the handling of stormwater and detention and retention ponds; provisions that take into account sea-level rise, climate change,
- **housing and building code requirements:** requiring higher quality materials in at-risk-for-flood construction; the requirement of engineered fill to elevate structures; increased construction standards for buildings deemed to be critical facilities
- **ongoing community flood mitigation practices:** avoidance of development in high-flood-risk areas; elevation of buildings and supporting electrical, heating ventilation, plumbing, air conditioning equipment above the Base Flood Elevation (also known as "freeboard"); regulations for areas protected by levees or that lie below dams; measures to regulate hazardous materials and the use of septic systems in or near Special Flood Areas (SFHAs); increased protection of SFHAs and other sensitive areas
- **visionary disaster preparedness plans:** planning (to include response and recovery) not only for the storms of today, but for future (more frequent and more intense) storm events
- **robust hazard mitigation planning:** planning that involves ALL of the community's stakeholders and not just the government officials
- **education and outreach:** promote awareness of floodplain management issues through newsletters, luncheons, and special materials; implement training and educational programs; train flood-risk facilitators to assist in outreach efforts; investigate alternative professional certification programs
- **No Adverse Impact floodplain management approach:** prevents the actions of one property owner from adversely affecting the rights of other property owners by developing a comprehensive plan to manage development that identifies acceptable levels of impact, specifies appropriate measures to mitigate any adverse impacts, and establishes a plan for implementation

It is important for communities implementing higher standards to take special care to ensure that they are mirrored in all of their plans, regulations, ordinances, and policies to avoid ambiguity and potential conflicts in the administration of the higher standards.

Communities should note that FEMA recognizes and encourages community floodplain management activities that exceed the minimum requirements of the NFIP. The agency has developed an incentive-based program, the Community Rating System (CRS), which offers community residents and business owners up to a 45 percent reduction in flood insurance premiums for activities that enhance public safety, promote flood protection, and reduce damages to property and public infrastructure from flooding.

CONCLUSION

Effective floodplain management helps a community reduce the amount of flooding it experiences and thus reduces the impacts and associated costs of floods. An increase in the frequency and severity of storm events due to a changing climate, sea-level rise, and community development pressures in at-risk areas has resulted in the need for a more comprehensive approach to floodplain management that exceeds the minimum standards of the NFIP. A truly comprehensive strategy must identify the level of flood risk; include consistent standards to address risk in all plans, regulations, ordinances, and policies; incorporate increased flood-risk mapping that accounts for predictable future conditions; and embrace an education and outreach approach designed to modify behavior and the public's perception of the community's flood risk.

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