



Montgomery County, Pennsylvania

Protecting, People and Resources

# floodplain ordinance

# FEMA MAP MODERNIZATION

- Updated base map
  - Improve the accuracy of floodplain determinations
- Digital Flood Insurance Rate Map
  - Compatible with Geographic Information Systems
  - Planning, permitting, and insurance applications



# NFIP Requirements

- National Flood Insurance Program (NFIP)
  - Community practices sound floodplain management
  - The Federal Government makes flood insurance available to residents in that community
- Sound Floodplain Management = Floodplain Ordinance



# Current Municipal Ordinances

- Variability Among Municipalities
- Avoid Backsliding
- Department of Community and Economic Development (DCED) “Suggested Provisions”
- These suggested provisions meet FEMA’s checklist of required provisions



# DCED ‘Suggested Provisions’

## Explanatory Note:

“These provisions **are not "model" floodplain management regulations**. With few exceptions, they have been prepared only with the intention of meeting the **minimum requirements** of Section 60.3 (d) of the National Flood Insurance Program and the Pennsylvania Flood Plain Management Act. **They do not contain everything necessary or desirable** for good floodplain management. For any municipality that may be interested, **considerably more could be done** concerning the regulation of development in flood prone areas.”



# Model Ordinance

- High Standards
  - Exceeds FEMA minimum requirements
  - Prohibits fill or construction except by variance
  - Variance requirements are FEMA standards
    - Municipal acceptance, FEMA compliance



# Model Ordinance

- 4 Ordinance Levels

RAMPP Region III Ordinance Level Worksheet MONTGOMERY COUNTY, PENNSYLVANIA										
Community Name	CID	Flood Data Shown on the New/Revised FIRM (Select "Y" or "N" for <u>each</u> item)							Current 60.3 Code	New 60.3 Code
		Are there 100- Year Floodplains?	Are there BFEs?	Are there Floodways?	Are there any AE Zones without Floodways?	Are there AO Zones?	Are there AH zones?	Are there V Zones?		
Narberth, Borough of	421903	Y	N	N	N	N	N	N	B	B
North Wales, Borough of	420704	Y	Y	N	Y	N	N	N	C	C
Pennsburg, Borough of	422496	Y	Y	Y	N	N	N	N	D	D
Perkiomen, Township of	421915	Y	Y	Y	Y	N	N	N	D	D
Plymouth, Township of	420955	Y	Y	Y	N	N	N	N	D	D
Pottstown, Borough of	420705	Y	Y	Y	N	N	N	N	D	D
Red Hill, Borough of	422718	N	N	N	N	N	N	N	A	A
Rockledge, Borough of	420706	N	N	N	N	N	N	N	A	A
Royersford, Borough of	421904	Y	Y	Y	N	N	N	N	D	D



# Ordinance Contents

## Introduction

- The Importance of Floodplain Management
- Function of the Floodplain
- Issues for Properties in the Floodplain
- Coordination with Existing Programs
- Design Considerations
- Role of FEMA



# Ordinance Contents

- Article I Statutory Authorization
- Article II General Provisions
- Article III Definitions
- Article IV Identification of Floodplain Areas
- Article V Uses Permitted in the Floodplain Conservation District
- Article VI Variances
- Article VII Technical Provisions in the Event of a Variance Being Granted
- Article VIII Activities Requiring Special Permits
- Article IX Administration
- Article X Enactment



# The Importance of Floodplain Management

- Over seven percent of the County's total acreage is floodplain
- Loss of Life
- Property Damage
- Environmental Degradation

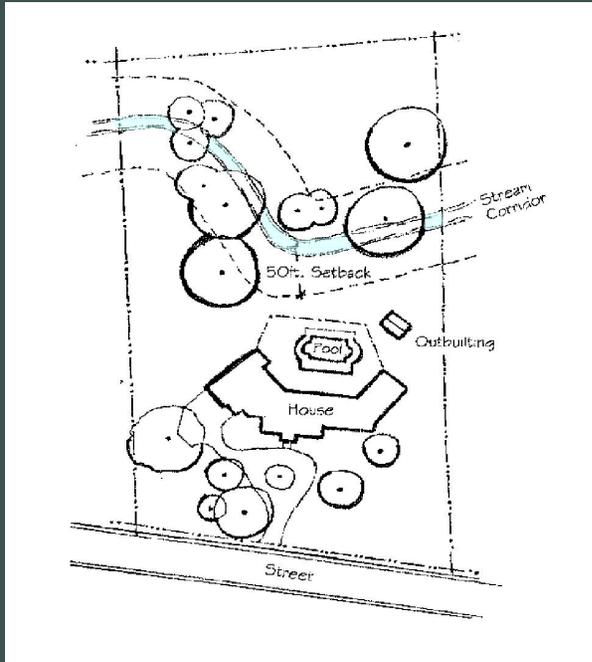


# Issues for Properties in the Floodplain

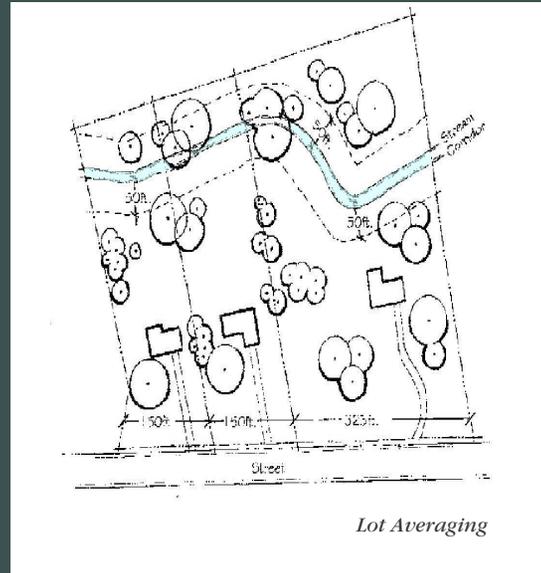
- 2,500 homes, businesses, and other structures are located in the floodplain and are at risk
- Flood Insurance:
  - Residential property - \$395 - \$2,600 per year
  - Nonresidential property \$2,500 to \$11,000
- Repeat claims
- Takings



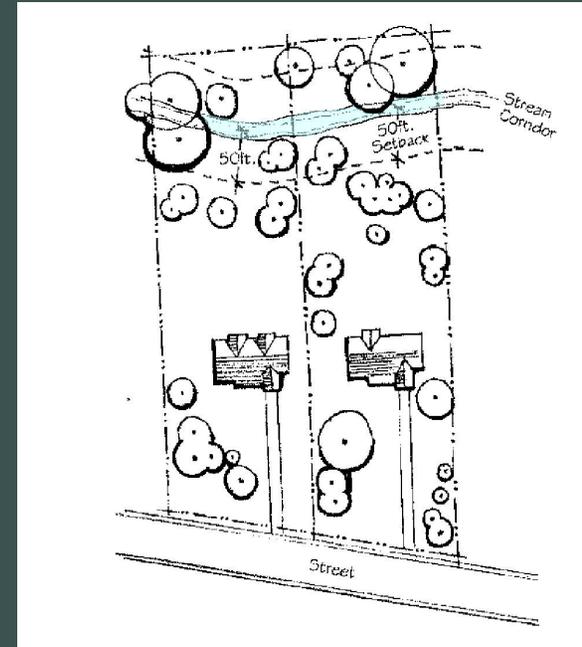
# Design Considerations



*Locate Improvements  
Outside the  
Floodplain*



*Lot averaging  
accommodates the  
meandering stream*

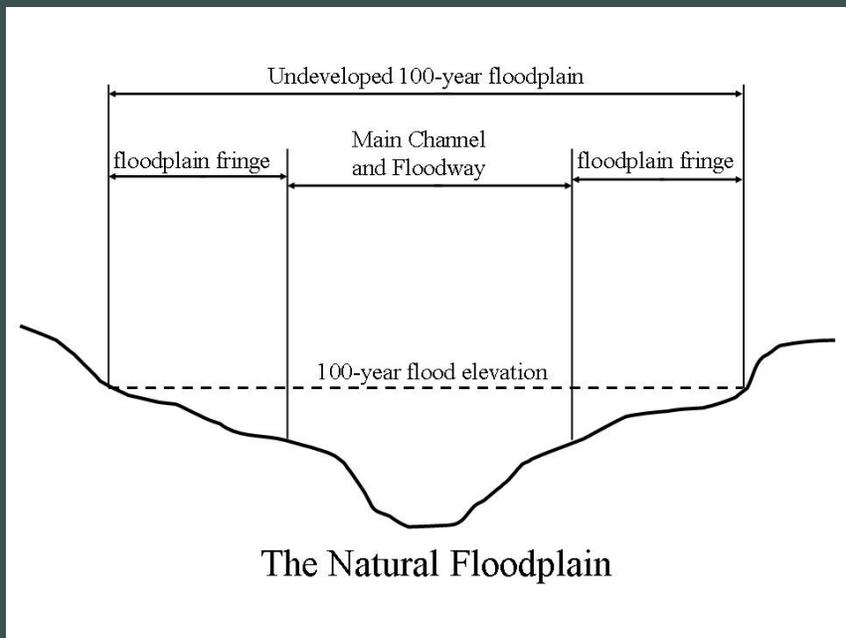
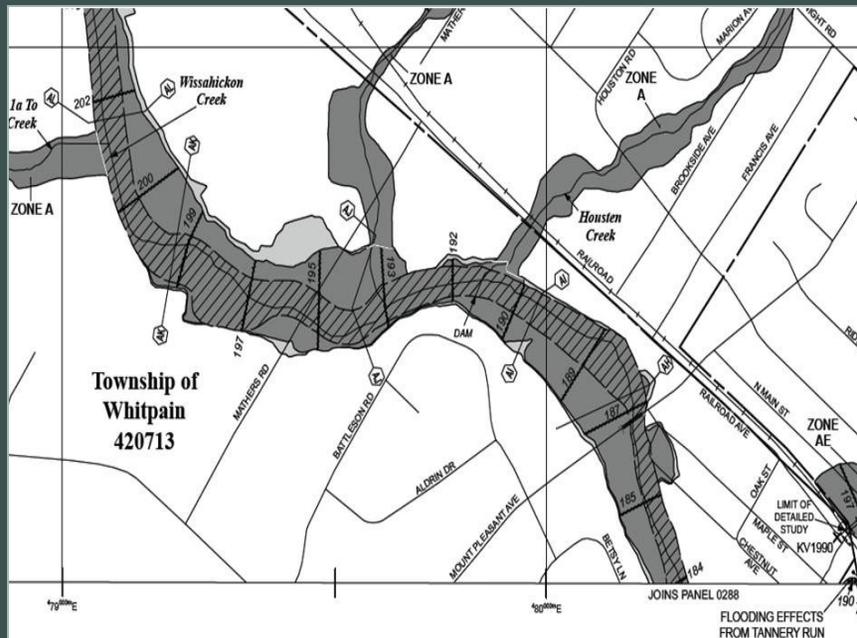


*Deep, narrow lots  
avoid the floodplain*



Model  
Ordinance

# Role of FEMA



**Special Flood Hazard Area (SFHA)** is FEMA's designation for the 100 year flood boundary. The SFHA is based on NFIP's 1%-annual chance flood.



# Ordinance Structure

## Correlation with Ordinance Review Checklist

7.01B:FC13  
Ordinance section : FEMA Checklist number

## Ordinance Language

7.01B:FC13

7.02(A)(1):FC29

Section 7.02A2

*This section, and other, similar sections that reference specific zones, only needs to be included in the municipality's ordinance if that specific zone is identified on the FIRM.*

7.02(A)(2):FC30

7.02(B):FC35

7.02(C)(1):FC31

## Commentary

- B. The municipality shall require technical or scientific data to be submitted to FEMA for a Letter of Map Revision (LOMR) within six (6) months of the completion of any new construction, development, or other activity resulting in changes in the BFE.
- C. Any new construction, development, uses or activities allowed within any identified floodplain area shall be undertaken in strict compliance with the provisions contained in this Ordinance and any other applicable codes, ordinances and regulations.

## Section 7.02 Elevation and Floodproofing Requirements

### A. Residential Structures

1. In AE, A1-30, and AH Zones, any new construction or substantial improvement shall have the lowest floor (including basement) elevated up to, or above, the regulatory flood elevation. The design and construction standards and specifications contained in the 2006 International Building Code (IBC) and in the 2006 International Residential Code (IRC) or the most recent revisions thereof and ASCE 24 and 34 PA Code (Chapters 401-405 as amended) shall be utilized.
2. In AO Zones, any new construction or substantial improvement shall have the lowest floor (including basement) at or above the highest adjacent grade at least as high as the depth number specified on the FIRM.

### B. Space below the lowest floor

1. Fully enclosed space below the lowest floor (excluding basements) which will be used solely for the parking of a vehicle, building access, or incidental storage in an area other than a basement, shall be designed and constructed to allow for the automatic entry and exit of flood waters for the purpose of equalizing hydrostatic forces on exterior walls. The term "fully enclosed space" also includes crawl spaces.
2. Designs for meeting this requirement must either be certified by a registered professional engineer or architect, or meet or exceed the following minimum criteria:
  - a. minimum of two openings having a net total area of not less than one (1) square inch for every square foot of enclosed space.
  - b. the bottom of all openings shall be no higher than one (1) foot above grade.
  - c. openings may be equipped with screens, louvers, etc. or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

### C. Non-residential Structures

1. In AE, A1-30 and AH Zones, any new construction or substantial improvement of a non-residential structure shall have the lowest floor (including basement) elevated up to, or above, the regulatory flood elevation, or be designed and constructed so that the space enclosed below the regulatory flood elevation:

floodplain ordinance

## Section 2.02 Applicability

- Areas of the municipality subject to inundation by the one-hundred-year flood as delineated on the Flood Insurance Rate Map dated [EFFECTIVE MAP DATE]
- Soils with a frequency of flooding of 1% or greater per year, as delineated by the NRCS Soil Survey, including
  - Bowmansville (Bo)
  - Knauers (Bo)
  - Gibraltar (Gc)
  - Hatboro (Ha)
  - Rowland (Rt), Rowland (RwA), Rowland (RwB)
  - Urban Land Occasionally Flooded (UIA)



# Article III Definitions

- Freeboard – a factor of safety
- Substantial damage/improvement – Cost of work is equal to or exceeds fifty (50) percent of the market value (bring existing structures up to code)



# Article V Uses Permitted in the Floodplain Conservation District

## Uses Permitted by Right

- Up to half of any required yard setback area
- Open space uses that are primarily passive in character
- Forestry operations reviewed by the MCCD
- Agricultural uses
- Public utilities
- “Development of elevated and flood-proofed buildings on brownfield sites in redevelopment areas encouraging economic revitalization”



# Uses Prohibited in the Floodplain Conservation District

- New construction
- Placement of fill
- Encroachment, alteration, or improvement to any watercourse
- Clearing of all existing vegetation
- Parking lots
- Stormwater basins



# Article VI Variances

“The variance option is provided in recognition of property owner’s rights, and the possibility of challenges against a too restrictive ordinance. However, the prohibition of new construction, fill, and other similar activities is meant to reduce the threat that flooding represents to residents and property. Numerous small incursions into the floodplain can have a cumulative affect, resulting in flooding downstream. Therefore, a variance should only be granted when the provisions of Section 6 are satisfied”

- FEMA Standards as Variance Standards
- Special Requirements for Recreational Vehicles
- Special Requirements for Manufactured Homes



# Article VII Technical Provisions in the Event of a Variance Being Granted

- Residential Structures
- Non-residential Structures
- Accessory structures



# Section 7.03 Special Technical Requirements

- Development Which May Endanger Human Life



# Article VIII Activities Requiring Special Permits

- Hospitals
- Nursing homes
- Jails or prisons



# Article IX Administration

- Section 9.01 Designation of the Floodplain Administrator
- Section 9.02 Permits Required
- Section 9.03 Duties and Responsibilities of the Floodplain Administrator

