

Floodplain Management 101

For Elected Officials

Agenda

- ▣ Roles and Responsibilities of Elected Officials for Floodplain Management
- ▣ Important Definitions and Floodplain Map Types
- ▣ Important Floodplain Management Concepts
- ▣ Acronyms
- ▣ Resources

Your Role as an Elected Official

- Understand that flooding will occur in your jurisdiction either during your term or another's
- Understand the *benefits* that floodplains provide to your jurisdiction
- Understand where flooding occurs in your jurisdiction and why
- Ensuring public health and safety
- Understand best ways to avoid flood damage
- Understand how your Emergency Management Plan will work when a flood occurs

Benefits of Taking Action Before the Flood has Occurred

- Alleviating existing flooding problems and minimizing future damage (Master Planning, CIP projects and Regulations)
- Improving your chances of getting funding from outside sources for a variety of flood related programs (Join the NFIP and prepare Hazard Mitigation Plans)
- Helping the community become more aware of flood hazards (Flood Studies (FEMA, FHADs) and SEMSWA Flood Awareness Plan currently underway)
- Making your citizens eligible for reduced flood insurance premiums (CRS Program – will be revised in 2012)
- Meeting other community needs, such as recreation and economic development (floodplain area preserved as open space through development regulations and the Open Space Programs)
- Know the actions required during and after a flood occurs (Emergency Management and Flood Recovery Plans – Sheriff's Office)

NFIP Community Requirements

Community has agreed to enforce floodplain management regulations in exchange for eligibility to obtain flood insurance, disaster assistance, and federal grants and loans

Major Federal Requirements:

1. **All** "development" in the floodplain must have a local permit. "Development" means any man-made change to improved or unimproved real estate, including but not limited to, buildings or other structures (new buildings are not allowed by our criteria), minimum dredging, filling, grading, paving, excavation, drilling operations, channel improvements, channel rehabilitation, channel stability projects, flood control projects, and stormwater detention facilities – City LDC definition
2. New buildings in the floodplain must be built or located to resist flood damage (we do not allow this under either City or County criteria but see "existing" buildings slide)
3. Additions, improvements, or repairs to a damaged building that exceed 50% of the original building value must be flood resistant (this is referring to substantial damage or improvements – we do not allow this under our criteria except for substantial damage by variance)
4. Only certain types of development are allowed in the floodway part of the floodplain i.e. improvement projects identified in master plans

Major State Requirements:

1. 1/2 ft floodway (already in our criteria)
2. critical facilities protection (some revision to our criteria is required)
3. freeboard (already in our criteria)

as discussed in other presentations

After A Flood

Emergency Response

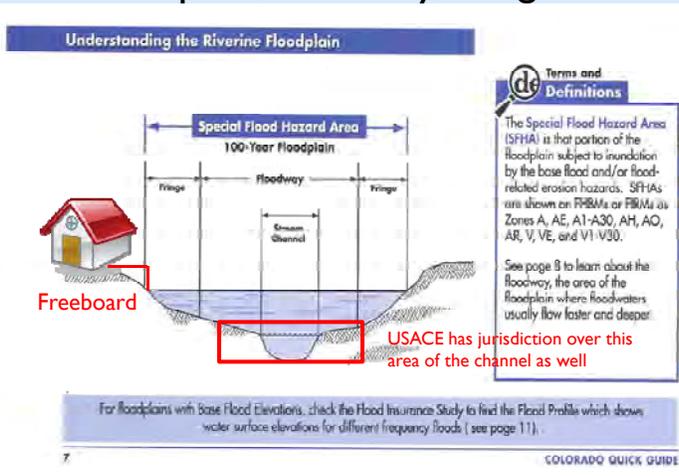
"The public expects its elected officials to show up and take charge. Successful emergency operations are the result of having been prepared."

Mitigation

- ▣ Finding Out What Happened - who was affected and the extent of damage
- ▣ Deal with the Expectations of Your Constituents – they will want answers and immediate action
- ▣ **Obtaining Outside Aid** – what aid and when – familiarize yourself with various assistance programs
 - ▣ **Requests for outside aid are made through the State Emergency Management Office**
 - ▣ **If a major flood – governor can request a federal disaster declaration - FEMA**
- ▣ **Leading Your Community's Post-Flood Efforts** – redevelopment guidance – dealing with people who want to immediately repair or rebuild – permit requirements and restrictions

Important Definitions

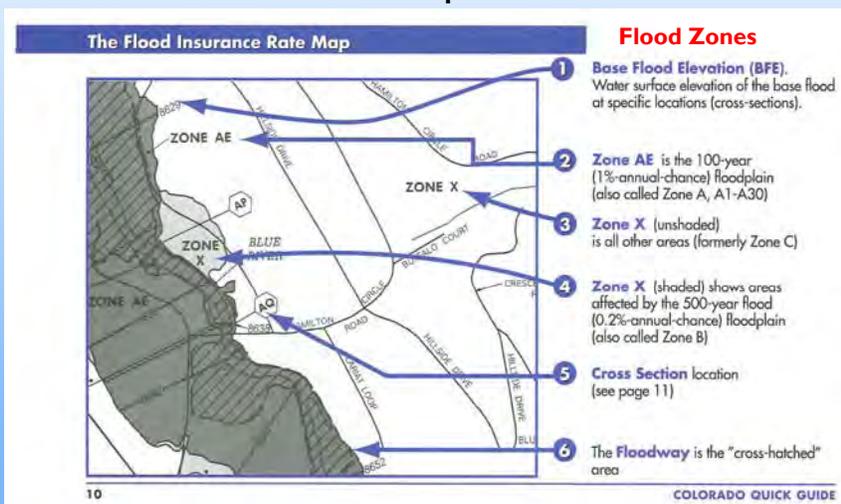
Floodplain, Floodway, Fringe and SFHA



Neither the City nor the County allow new structures to be built in the floodway or fringe even if removed from the floodplain through filling (see below)

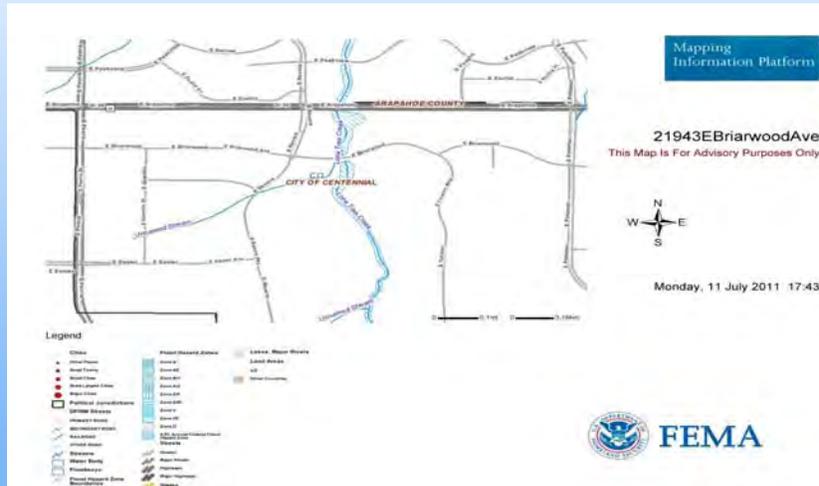
Important Definitions

FEMA - Paper FIRM



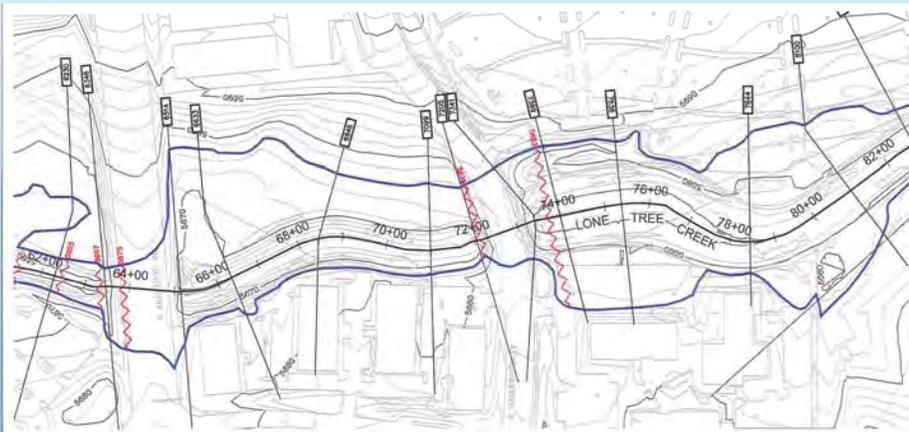
Important Definitions

FEMA - "DFIRM"



Important Definitions

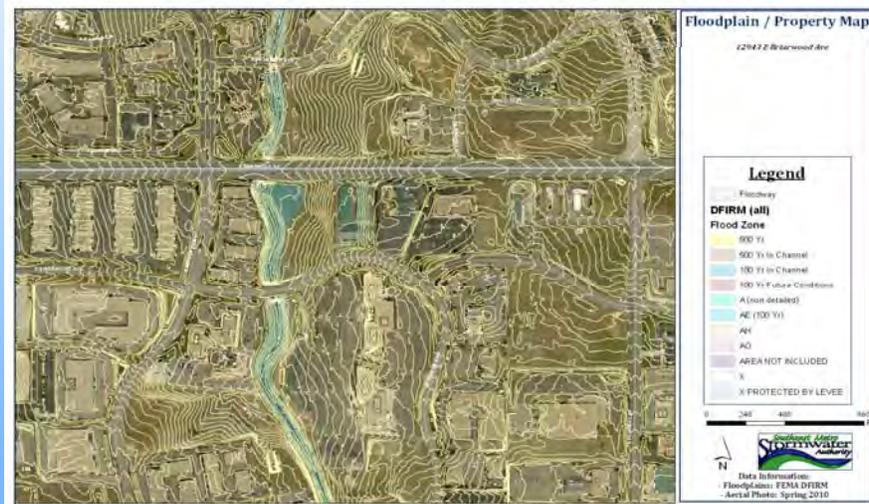
UDFCD/Local Governments - FHAD



Lone Tree Creek FHAD

Important Definitions

SEMSWA - Floodplain Information Figure



Floodplain Changes – LOMCs and FHADs

Due to:

- Channel Projects and Ponds (L, W, D Ponds and Cottonwood Creek channel improvements)
- Fill
- Upstream Development (more flow)
- Levees
- Other

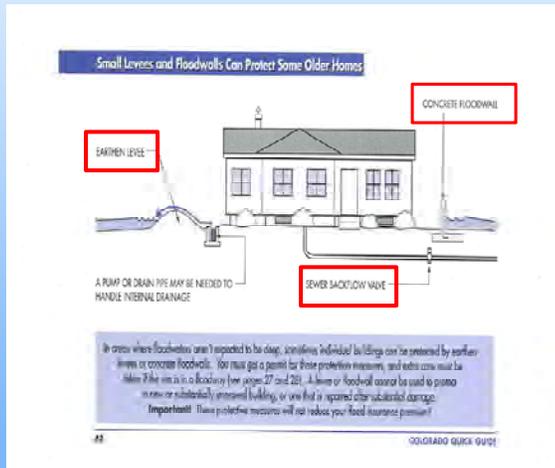
Result in:

Actual floodplain line changes on the maps



Important Concepts

Flood Protection for an **Existing** Structure



! Can be offered to **existing** homeowners if there is no impact to other homeowners

! This type of protection will not change their flood insurance premium because there is no structure elevation change (freeboard above the BFE)

Some of the solutions presented to residents in the Arapahoe Lakes area

Important Concepts

Acquisition (Relocation)



Eventually structures that are in the fringe or most especially the floodway should be removed. This would occur when:

- ✓ Cheaper than a project to remove them from the floodplain
- ✓ After there has been substantial damage
- ✓ When for sale
- ✓ When contiguous to exiting open space

SEMSWA currently working on Acquisition Program to define priorities and criteria

Substantial Damage/Improvement

Substantial Damage

Definition:

Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged conditions would equal or exceed 50% of the market value of the structure before the damage occurred.

Substantial Improvement

Definition:

Any repair, reconstruction, rehabilitation, addition or other improvement of a structure, the cost of which equal or exceeds 50% of the market value of the structure before the Start of Construction of the improvement. This phrase includes structures which have incurred Substantial Damage, regardless of the actual repair work performed. For the purposes of this definition, substantial improvement is considered to occur when the first alternation of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimension of the structure.



Franklin Meadows – Big Dry Creek

Substantial Damage/Substantial Improvement requirements pertain to this area i.e. limited improvements allowed, if substantially damaged may meet criteria for our acquisition program

Important Concepts

Fill

Floodplain Fill Can Make Things Worse

Floodplains are supposed to store floodwater. If storage space is filled with dirt and other fill, future flooding may be worsened. Your community may require an engineering analysis (an "out" certificate) to show how floodplain fill will affect flooding. Floodplain fill may alter desirable floodplain functions, including wildlife habitat and wetlands.

Obstructed With Fill

Make sure your floodplain fill project won't harm your neighbors. Floodway fill is allowed *only* if an engineering evaluation demonstrates that "no-rise" in flood level will occur (see page 28).

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! City does not allow filling in the "fringe"

! County strongly discourage filling in the "fringe"

Often proposed by developers as a way to remove the property from the floodplain

Important Concepts

Basements

Basements Are Unsafe

Terms and Definitions

A basement is any portion of a building that has its floor sub-grade (below ground level) on all sides.

Basements below the FFL are not allowed in new development and flood insurance coverage is very limited in existing basements for a very good reason. It only takes an inch of water over the sill and the entire basement fills up! Excavating a basement into fill doesn't always make it safe because saturated groundwater can damage the walls.

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! FEMA does not allow basements in a floodplain

! Basements right next to the floodplain are an inappropriate practice (no buffer)

! Neither the NFIP or SEMSWA manage ground water

This may be part of what some of the residents of The Farm are experiencing

Acronyms

- ▣ (D)FHAD – (Digital) Flood Hazard Area Delineation (Study)
- ▣ SFHA – Special Flood Hazard Area
- ▣ (D)FIRM – (Digital) Flood Insurance Rate Map
- ▣ BFE – Base Flood Elevation (100-year flood elevation)
- ▣ LOMCs – Letters of Map Change (FEMA) i.e. CLOMRs, LOMRs, LOMAs, CLOMAs, LOMR-F, CLOMR-F, PMRs (large LOMR)

Resources

- ▣ [Denver Regional Natural Hazard Mitigation Plan, 2010 Update](http://www.drcog.org/Natural%20Hazards%20Mitigation/Regional%20Natural%20Hazards%20Mitigation%20Planning/2010%20Update) = [www.drcog.org/Natural Hazards Mitigation/Regional Natural Hazards Mitigation Planning/2010 Update](http://www.drcog.org/Natural%20Hazards%20Mitigation/Regional%20Natural%20Hazards%20Mitigation%20Planning/2010%20Update)
- ▣ Floodplain Management in Colorado, Quick Guide, CWCB
- ▣ Addressing Your Community's Flood Problems, A Guide for Elected Officials, FEMA 1996
- ▣ Arapahoe County Emergency Management Plan