TFMA 2012
Freeboard Survey

Special Acknowledgement
To
Charlie Hastings PE, CFM, who initiated the First TFMA Survey in 2004
“Work in Progress”

- Roy Sedwick, CFM – TFMA/TCRFC
- Mike Segner, CFM – TWDB
- John Ivey, PE, CFM – Halff
Can a Texas County adopt higher Standards?

Yes___; No___
Senate Bill 936

- Amends the Texas Water Code
- Authorizes political subdivisions to adopt more comprehensive floodplain management rules
- Authorizes participate in floodplain management and mitigation initiatives such as FEMA’s Community Rating System (CRS) Program
- Allows collection of reasonable fees to cover the cost of administering a local floodplain management program
- Allows steps, using regional, watershed, and multi-objective approaches, to improve the long-range management and use of flood-prone areas
TFMA’s Freeboard Goals

- Reduce the risk of loss of life and property damage from floods
- Encourage wise floodplain development
- Reduce annual flood claims
- Reduce the number of Repetitive Loss and Severe Repetitive Loss properties
- Encourage higher floodplain standards
- Increase participation in CRS
NFIP Flood Claims in Texas

- 1978-2012
- $5.4 Billion (Texas)
- $40.8 Billion Nationally
- Texas represents 13.4%
- Louisiana, Texas and Florida = 61.6%

www.fema.gov
2012 Questionnaire

- Zone AE/VE - New construction must be elevated ___ feet above BFE as shown on FIRM (existing conditions).

- Zone AE/VE - New construction must be elevated ___ feet above BFE determined by a study based on fully developed watershed (future conditions)
Zone A (no BFE) - Developer must conduct a study to define the BFE.

Yes ____; No ____;

[Study required if 50 lots or 5 acres – 44CFR60.3(b)(3]

]
Zone A (unnumbered)

- Developer must conduct a study to define the floodplain and floodway boundaries and BFE’s based on existing conditions.

Yes ____; No ____;
Zone A (unnumbered)

- Developer must conduct a study to define the floodplain and floodway boundaries and BFE’s based on **fully developed** watershed (future conditions)

Yes ____; No ____.
Floodway Requirements

- Floodway - no development is allowed within the floodway boundary.

Yes ____; No ____;

[Several communities prohibit all development in the floodway]
Floodway Requirements

- No fill is allowed in the floodway or floodplain without mitigation (No Adverse Impact = NAI).

Yes ____; No ____;

[Several communities prohibit development even if there is no rise]
Detention Requirements

Is Detention Required?
Yes ____; No ____;

Notes:
1. Several communities require “No Adverse Impact” (NAI)
2. Several communities require mitigation of all fill placed in floodplain and floodway
3. Several communities require zero rise for all development within the SFHA
Requirements in Zones B, C & X

- Zone X (Shaded) - New construction must be elevated ___ feet above natural grade or above the crown of the nearest street.

- [Friendswood and other communities require new construction to be elevated a minimum of +2’ in Zone X-shaded and Zone X-unshaded]
Requirements in Zones B, C & X

- Zone X (Unshaded) - New construction must be elevated ___ feet above natural grade or the crown of the nearest street.

- Note: FEMA’s definition of Zone X (shaded) is areas of 2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
Elevation Certificates

Elevation Certificate Requirements -

- (1) Submitted prior to forming/pouring lowest floor. Yes ____; No ____;
- (2) Submitted when structure is completed. Yes ____; No ____;
- (3) Required prior to issuing a CO. Yes ____; No ____;

Note: Several communities require multiple EC submittals.
Community Rating System

- Is your community enrolled in CRS?
  Yes ____; No ____;

- Current CRS Rating ____

- Is your community floodplain manager a CFM?
  Yes ____; No ____;

  How many CFM’s does your community have on staff? ____
Higher Standards

- Detention (on-site and/or regional)
- Setbacks from FP and/or FW boundaries
- CLOMR required before permit issued
- No development in floodway or “Zero Rise”
- No development in floodplain or “Zero Rise”
- No Adverse Impact (NAI)
- Additional Wetland/Wildlife requirements
- Floodplain area must be open space or easement
- Critical Facilities must be elevated above 500-year
- No loss of “Valley Storage”
- Cumulative Substantial Improvement/Damage
- Water quality (protection) requirements
- Other higher standards ………..
2012 Survey Results

63, 26%

206, 84%

- +1 or Higher Freeboard
- +1 or Higher (Fully-Developed Conditions)
2012 TFMA Freeboard Survey

- 245 communities responded (to date)
- 206 (84%) have adopted +1’ or more freeboard
- 63 (26%) Require BFE’s using fully developed hydrology
- 59 (24%) require detention
- 132 (53.9%) have a CFM on staff
- HCFCD has 9 CFM’s on staff
- COSA has 20 CFM’s on staff
- Dallas has 15 CFM’s on staff
- TxDOT has 31 CFM’s across the state
- Halff Associates has 50 CFM’s in Texas
Benefits of NCTCOG’s Higher Standards

- 2012 Population 6,640,290
- 2000-2010 Growth 1,230,673 (23%)
- NFIP Policies 23,752
- NFIP Claims 5,852 (1)
- Claims/10,000 pop 8.81
- (1) Total from 1978 to 2012
Benefits of NCTCOG’s Higher Standards

- RL Properties: 660 (1)
- RL Claims: 1,921 (1)
- Declared Flood Disasters: 68 (1)
- Planning Area: 12,796 sq mi
- Density: 519 persons/sq mi
- CRS Communities: 17 (31%)
- (1) Total from 1978 to 2012

Data sources:
- NCTCOG
- FEMA CIS
Higher Standards Resources

- ASFPM – www.floods.org
- www.floods.org NAI Committee - A Common Sense Strategy for Floodplain Management
A Guide for Higher Standards in Floodplain Management
Prepared by:
ASFPM Floodplain Regulations Committee
June 2011
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FREEBOARD REQUIREMENTS IN ZONE D:

- Zone D: areas mapped as Zone D on the community Flood Insurance Rate Map (FIRM), defined as areas in which flood hazards are undetermined, but possible

- FEMA’s proposed levee mapping procedures for decertified levees is to map areas behind decertified levees as Zone D and Zone AE
Figure 4-2. Sound Reach Cross Section View
Figure 4-4. Freeboard Deficient Cross Section View
Figure 4-6. Overtopping Cross Section View
Figure 4-8 Structural-Based Inundation Cross Section View

[Diagram showing inundation cross section with labeled zones and flood elevation.]
Figure 4-10. Natural Valley Cross Section View
Zone D Challenges

- Communities typically do not deal with Zone D
- Flood insurance is not required in Zone D however lenders may require anyway
- Zone D rates are higher than Zones B, C, X
MODEL LANGUAGE

- Add the following sentence (bolded) to specific requirements for Residential Structures and Non-Residential structures:

- *In areas mapped as Zone D on the community Flood Insurance Rate Map (FIRM), the structure shall have the lowest floor, including basement, elevated at least two feet above the highest adjacent natural grade or above the crown of the nearest street, whichever is higher.*
Thank you for participating!

Roy says “Higher Standards saves lives and reduces flood losses”

Submit Surveys to John Ivey at jivey@halff.com

Survey can be downloaded from www.tfma.org