FLOODPLAIN MANAGEMENT
BEST PRACTICES

Dennis Dixon, CFM
Pierce County Planning & Public Works
Surface Water Management

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What is the problem?
What is the problem?

[Images of natural disasters and flooding scenes]
Natural phenomenon versus Natural disaster

What is the problem?

People suffer
Today’s goals

• Different backgrounds with common goals
• Jargon and acronym avoidance
• Talk floods
• Mitigation strategies
• Floodplain management tools

What can I do?

• Know who is affected
• Identify the risk
• Understand the cost
• Build safer
• Mitigate what has been built
Who does it affect

- Property owners
- Professionals (insurance agents, Realtors, lenders, builders and surveyors)
- Business owners
- Tax payers
  - (local, state, federal)

Identifying the risk

- How much water - Hydrology?
- How will it flow - Hydraulics?
- Mapping it with better tools
- Flood maps include many assumptions
Identifying the risk

FEMA’s Digital Flood Insurance Rate Map (DFIRM)

New aerial photography (Orthophoto)
Identifying the risk

Light Detection and Range
LiDAR

Can be used for map changes

Understand the cost

• Flood insurance premiums
• Clean up and repair cost
  – First inch of water = $26,800
• Businesses closed
  – 40-60% small business never reopen following a disaster
• Opportunity cost – personal and community
**Build safer**

- Don’t build in the dangerous areas
  - Better zoning and land use rules

- Build higher
  - Building codes and critical area codes
- Freeboard for the unknowns
  - Modeling and mapping errors, climate change, nature doing nature
- Freeboard for the savings
  - Every foot higher cuts insurance nearly in half

**Mitigation**

- Oxford Living Dictionary defines mitigate:
  - Lessen the gravity of an offence or mistake
- Move low lying structures - up or away
- Try to prevent water from flooding an area
Flood insurance

• Mitigates for financial losses
• Federal insurance available regardless of:
  – In or out of mapped flood hazard area
  – Number of times flooded
• Required when a loan is involved
• Too many people do not want it!

Flood insurance factors

• Location related to mapped hazard
• Elevation of ground next to house and deck
• Elevation of items that could be damaged
• Date of construction – Could be pre-FIRM
• Community discounts – Community Rating System
Location, location, location

- Digital Flood Insurance Rate Map – DFIRM
- All maps can be improved on
  - Letter of Map Change
  - New flood studies
  - New data or topography including LiDAR
  - Using best available data for permitting
  - When asked for a flood elevation, ask why?

Location, location, location

- Local data
  - Pierce County: PublicGIS
  - Thurston County: GeoData Permitting Map
- Lender will use a map determination company
  - These can be revisited
  - You will need data to prove the point
  - Understand determination company’s risk
Time for something new

Flood permit review strategies

- Does the site map will show the floodplain limit?
- Is the base flood elevation known?
- Are there opportunities to save the owner money?

Benefit cost analysis - BCA

- Extra permit fees and inspection holds
- Elevation certificate cost ($800 - $2,000)
- Higher foundation cost vs insurance premiums
- Flood insurance standard vs preferred risk policy cost
**Floodplain savings**

Assumes $250,000 home with $2,000 deductible

- Subsidized $2,247/yr.
- Below BFE $6,751/yr.
- Above BFE $318/yr.

Elevation Certificate

- For compliance, map changes and insurance
- Required for participation in the NFIP and CRS
- Three step development process
  - Verify ground elevation and base flood elevation
  - Verify top of stemwall, slab or pier before releasing hold on sub-floor inspection
  - Verify compliance at finished construction
Elevation Certificate

- Fill out information you know
  - Sections A & B

- Surveyor only required for Section C
  - When the base flood elevation is known
  - Section D must describe equipment or utilities
Elevation Certificate

• Fill out information you know
  – Section G for permit information
  – Important to grandfather insurance rates
• Photographs of building for insurance &
  ...

Resources

• FEMA Region X NFIP Specialist Scott Van Hoff
  • 425 487-4677 Email: scott.vanhoff@fema.dhs.gov
• Ecology NFIP Coordinator David Radabaugh
  • 425 649-4260 Email: david.radabagh@ecy.wa.gov
• Elevation Certificate review tool
  – Community Rating System –CRS “gig sheet”
Resources

- [www.msc.fema.gov](http://www.msc.fema.gov)  
  - For flood insurance rate maps and map changes

- [https://hazards.fema.gov/femaportal/onlinelomc](https://hazards.fema.gov/femaportal/onlinelomc)  
  - On line submittal for map changes

- [http://crsresources.org/](http://crsresources.org/)  
  - Community Rating System program resources

- [https://www.norfma.org/](https://www.norfma.org/)  
  - Northwest Regional Floodplain Management Association  
  - CRS Users Group committee
More training

Becca Fricke-Croft, CFM
Training & Outreach Lead - STARR II - FEMA Region 10 Service Center
(425) 329-3699 Email: becca.croft@starr-team.com | Web: www.starr-team.com

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What did we learn

- Avoid becoming a disaster
- Guide applicants to long term savings
- Mitigate what has been built starting with insurance