



FLOOD HAZARD MAPPING PAST – PRESENT - FUTURE

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Puyallup River Executive Task Force

Today's topic

- History of Hazard Mapping
- Old (FIRM) and New (DFIRM) Mapping
- Levee Policies and Proposed Changes
- Adopt DFIRM Now: Pro's – Con's
- Questions and Next Steps



Decision to be made

- No Decision Today
- Understand Issues
- Confer with Local Staff
- Decision Time TBA
- Reach Unanimous Consensus

History of Hazard Mapping

- 1968 NFIP National Flood Insurance Program created by Congress
- 1974-77 Initial Flood Hazard Boundary Map Issued
- 1980-87 Initial Flood Insurance Rate Maps Issued
- 1999 Map Activity Statement Starts Countywide Update
- 2003 Nationwide Map Modernization Funded for 5 Years
- 2004 Studies Completed, Estimate Adoption in 2005
- 2007 Public Comment Period for Preliminary DFIRM
- 2009 Nationwide RiskMAP Begins
- 2009 Public Comment Period for Revised Preliminary DFIRM
- 2011 Feb - Letter of Final Determination Prepared
- 2011 Feb – FEMA Responding to Congressional pressure Puts Adoptions
- 2011 Dec – FEMA releases Draft Policies Regarding Levees

Effective FIRMS

- Flood Insurance Rate Maps – FIRM
- Issued and Adoption by Jurisdictions from 1980 - 1987
- Levee Standard not established until 1986
- Determinations For Insurance Rely On Paper Maps
- Broad floodplain boundaries hazards without Detailed Flood Studies
- Use 1970's Flood Studies where available

Pierce County 1970's Flood Studies

- Limited Topography
- 5' Urban and 20' Rural Contours
- Punch card Models with limited data points
- Limited Years of River Gage Records

New Mapping – DFIRMS

- Digital Flood Insurance Rate Map – DFIRM
- Digital Map Used for Determinations
- Overlay with Aerial Photo or Community GIS
- Levee Standard of 44 CFR 65.10 Applies
- Over 20 New Major Detailed Flood Studies



- Use more Modern Topographic Data
- 2' Urban and 5' Rural Contours
- New Computer Models Better Represent Nature
- 30 More Years of River Gage Data Including Floods of 1990 & 1996

Current Levee Mapping Procedures

- Area Behind an Accredited Levee Mapped only for Backwater Risk
- No Levee in Pierce County Is Certified to Meet Standards of 44 CFR 65.10
- Map Areas Behind Non Accredited Levees without Levee In Model
- Levees on Each Side of River Removed From Model Independently

Proposed Levee Mapping Procedures

- Five New Methods for Mapping Non Accredited Levees
- Most Requires Engineering Analysis and/or Certification of Existing Levee
- Floodplain Mapped Behind Levees
- Introduction of Zone “D” To Our Mapping

Zone D

- Flood Risk Not Determined
- Flood Insurance Not Mandatory
- High Insurance Premiums
- No Simple Method For Changing Flood Map
e.g. LOMA

Draft Levee Procedures

- No Timeline for Final Adoption
- No Funding Plan for New Levee Analysis
- No Schedule for County to Receive New Mapping
- FEMAs Mapping Budget Cut over 50%

Choices

- Request FEMA Finalize the DFIRMs and Update Them As New Analysis Completed
- 1980s FIRMs Remain Effective Map – For Insurance and NFIP Compliance - Until Levees Remapped and Incorporated into DFIRM

Reasons to Adopt DFIRMs

Best Available Science



Solid Blue - Preliminary DFIRM
Hatched - Effective FIRM

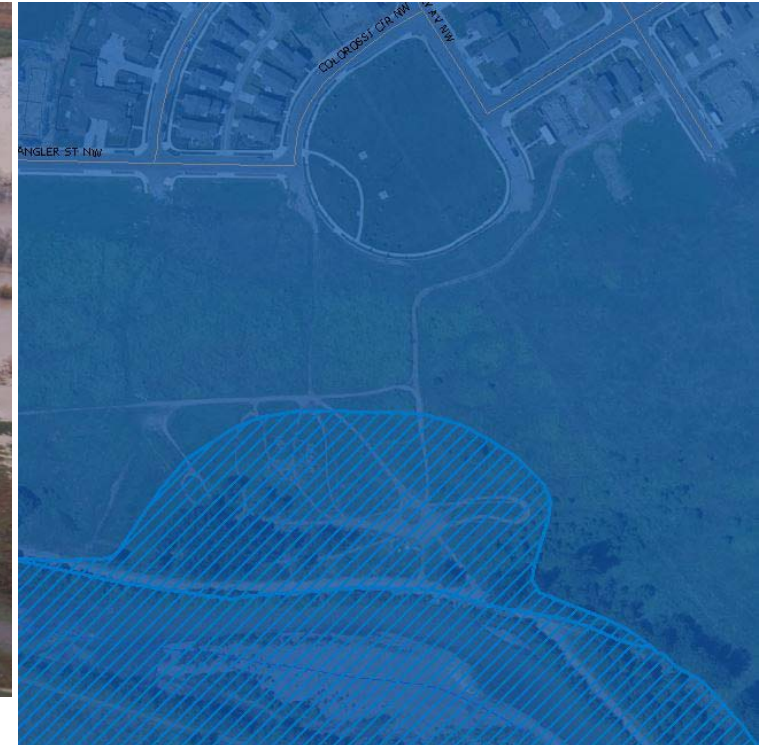
Cost of Current FIRM

- Over 2,000 Properties Waiting to be Removed From Floodplain
- Staff Assisting Citizens with Letters of Map Change, Citizens Paying High Survey Cost
- Not Understanding Risk, Current or Future

Cost of Current FIRM

No Financial Protection For Those At Real Risk but not shown in Floodplain on current FIRM

Existing Homes Added To Floodplain Receive Pre-FIRM Subsidized Insurance Rates



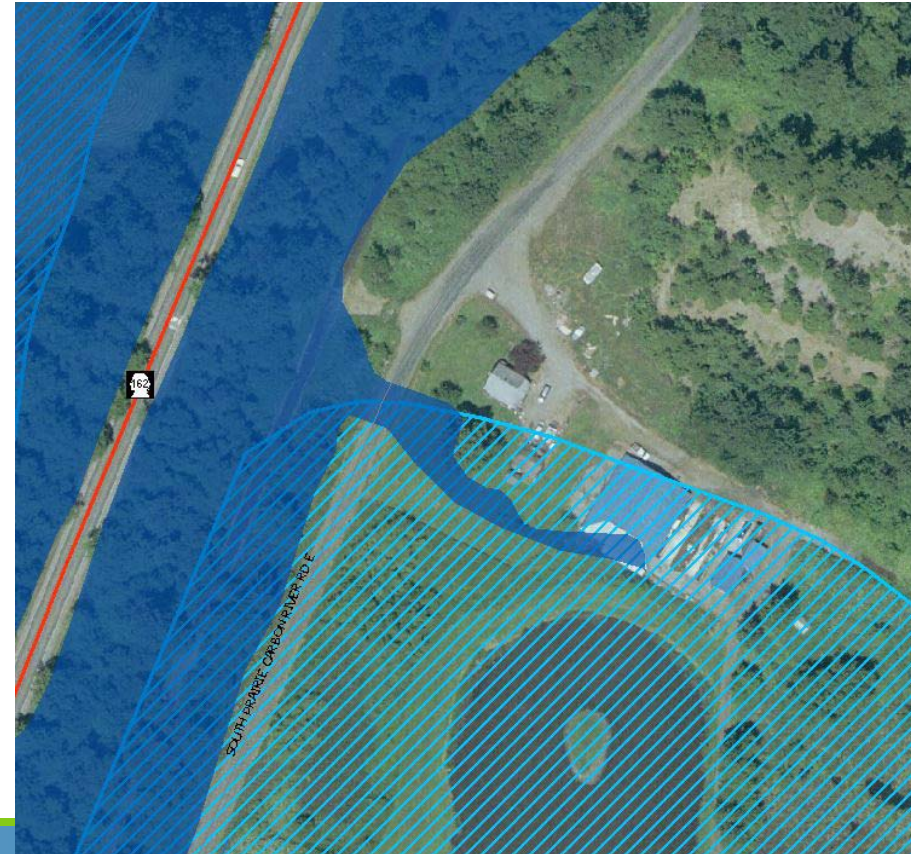
Cost of Current FIRM

Unnecessary Cost For Those Not At High Risk



Cost of Current FIRM

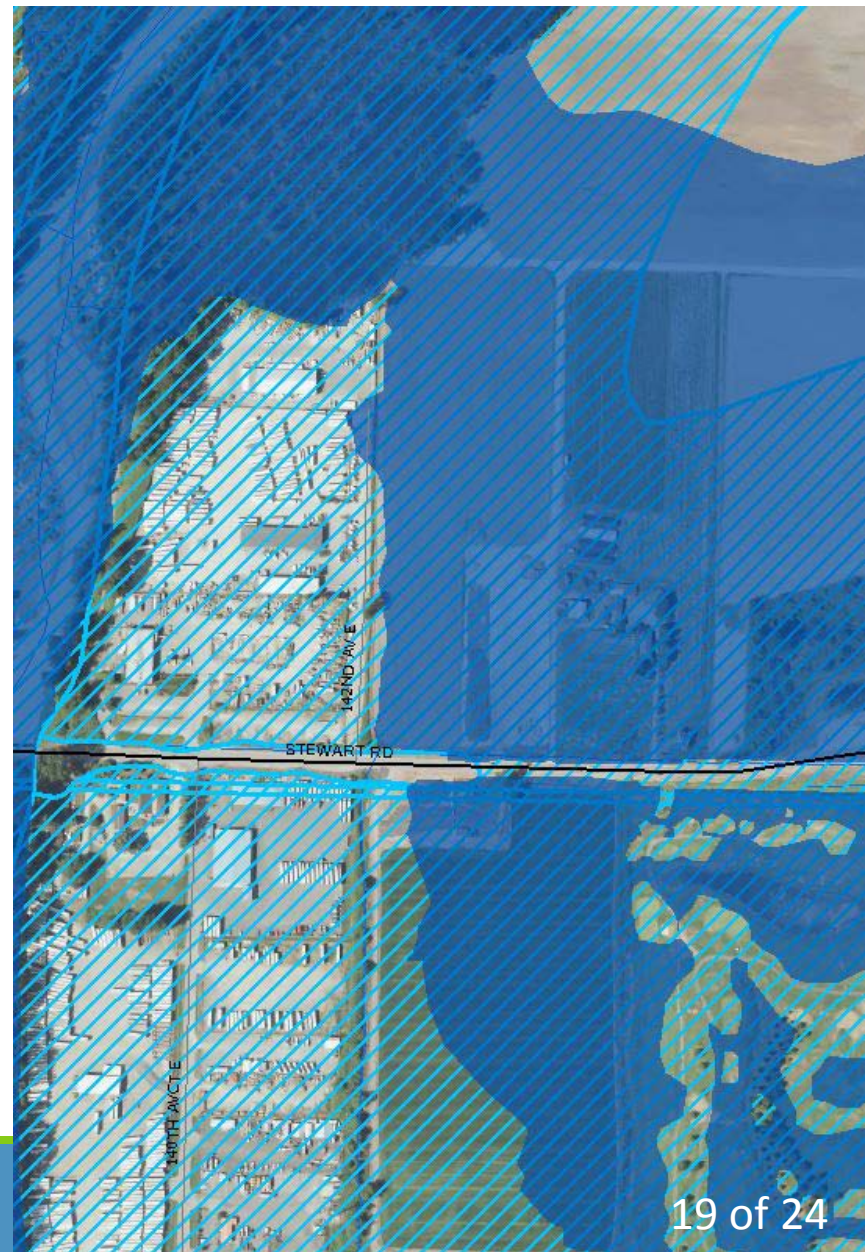
Unnecessary Cost For Those Not At High Risk





Cost of Current FIRM

Unnecessary Cost For Those Not At High Risk



New Levee Study Problems

- Uncertain Delay Period
- Uncertainty of New Mapping Results
- New Hydrology and Survey Required
- Inundation May Show Larger Areas at Risk

Reasons to Adopt DFIRMs

- Several Jurisdictions Currently Regulate to the Preliminary DFIRM
- Insurance Requirements and Premiums
- Determined by Old FIRM
- Two Sets of Maps Creates Confusion

Pro Adoption Conclusion

- Time to Lock in Mapping That Began 13 years ago
- Currently Too Much Uncertainty and Confusion of Risk
- Too Costly To Currently Implement, Too Costly for Those at Risk
- Waiting May Not Change Mapping, Only Delay it



Other Opinions

Discussion

FEMA Involvement

Next Steps

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