FEMA

NFIP Floodplain Management and Mapping

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FEMA

Introductions

- -David Bascom, FEMA HQ
  - Engineering Resources Branch Chief
- -Melissa Janssen, FEMA Region V
  - Risk Analysis Branch Chief
- -Ryan Pietramali FEMA Region VIII
  - Risk Analysis Branch Chief

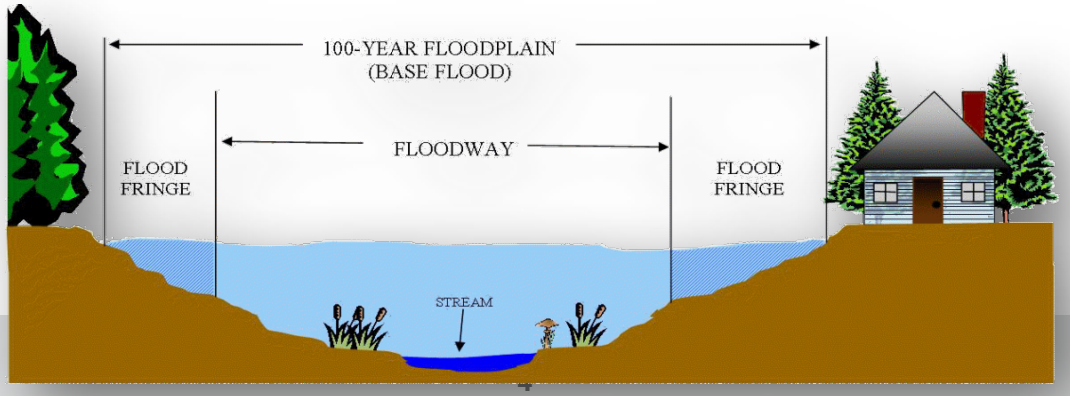
National Flood Insurance Program

Created by Congress in 1968 as a way of reducing the financial and human toll of flooding disasters on the Nation.

- The NFIP Mission is:
  - To educate American property owners about the risk of flood
  - To provide flood insurance, generally unavailable in the private insurance market
  - To accelerate recovery from flood damage
  - To mitigate future flood losses through local floodplain regulation
  - To reduce the personal and national costs of disaster

Elements of the NFIP

Identify Risk	Mitigate Risk	Insure Flood Risk
• FEMA identifies flood hazards through scientific and engineering methods • FEMA maps hazards on Flood Insurance Rate Maps (FIRMs) • FIRMs used for floodplain management, flood insurance, and risk communication	• Participating communities' floodplain management regulations must meet or exceed the NFIP minimum requirements • Flood Mitigation Assistance (FMA) funds projects and planning that reduce or eliminate long-term risk of flood damage to structures insured under NFIP	• For homeowners, renters, and businesses with eligible structures in participating communities • 73 private insurance companies sell and service NFIP policies under their own names • NFIP underwrites all NFIP policies, and also sells and services some through NFIP Direct



FEMA Role in the Fargo Moorhead Diversion Project

- FEMA is not a direct participant in the design or construction of the FM Diversion project; however, we have key roles to play:
  - Supporting the natural and beneficial function of the flood plain
  - Supporting sound floodplain management in the basin to reduce risk to life and property
  - Providing consultation to all parties regarding EO 11988 and locally adopted floodplain management ordinances, including over the past several years
    - NFIP Participating Communities
    - The States of North Dakota and Minnesota
    - The U.S. Army Corps of Engineers
    - Local sponsors of the Fargo-Moorhead Diversion Project
  - Providing guidance on potential impacts of the proposed project design, and the processes that would be required to maintain compliance with NFIP requirements

Role of Federal, State and Local Partners per the NFIP

- Determine the appropriate flood protection measures to minimize damage to the Fargo-Moorhead area from flood-risk and reduce risk to life and property
  - EO 11988 requires Federal structures and facilities to be constructed in accordance with the relevant standards and criteria
- Ensure that locally adopted floodplain management ordinances will be adhered to by those designing, constructing and operating this flood risk reduction project
  - State/Commonwealth, county, and community officials, based on their knowledge of local conditions and in the interest of safety, may set higher standards for construction in the floodplain
  - More restrictive or comprehensive State and local floodplain management criteria take precedence over the minimum NFIP criteria
- NFIP participating communities are responsible for approving all floodplain development and for ensuring that all permits required by Federal or State/Commonwealth law have been received

FEMA Coordination to Date and to Come

To Date:

- Active consultation in Fargo-Moorhead dating back to 2009
- Notice and guidance to USACE on how to comply with EO11988
  - The CLOMR process was identified as the appropriate mechanism
- Memorandum of Understanding for FEMA, USACE and Project Sponsors
- FEMA issued a Conditional Letter of Map Revision (CLOMR) commenting on whether the recent design of the project, if built as proposed, would meet the minimum NFIP requirements to warrant a future FIRM revision
  - Required clear definition of the project impact and notification of all affected.
  - Based upon compliance with minimum NFIP floodplain management standards
  - Conditioned on the future mitigation of impacted, *insurable* structures

Going Forward:

- Continued consultation
- FEMA will provide improved clarity on the CLOMR process and how it applies to large scale projects such as these
- Maintenance and updates to the FIRM to keep them current and reflect the project, once complete.

NFIP Accreditation Requirements

- Defined by Regulation in 44 CFR 65.10
- Design criteria (65.10 b) addresses:
  - Freeboard (3-4ft, no less than 2ft, coastal 1ft above runup)
  - Closures
  - Embankment protection and stability
  - Settlement
  - Interior Drainage
- Operation and Maintenance Plans (65.10 c and d)
  - To be adopted by local NFIP participating community
- "In lieu of these structural requirements, a Federal agency with responsibility for levee design may certify that the levee has been adequately designed and constructed to provide protection against the base flood." (65.10 e)
- Must be designed to meet or exceed the existing FEMA Base Flood Elevation, not effective

Effective Red River Hydrology

- The FEMA 1% discharge value at Fargo and Moorhead is based on a hydrology report completed in 1971 and the value at that time was 29,000 cfs.
  - This is documented in a report titled Red River of the North Regional Flood Analysis (Breckenridge to International Boundary dated August, 1971)
  - In the mid 1990's, a flow adjustment of 300 cfs was added to make the FEMA 1% discharge 29,300 cfs; this addition was not the result of additional discharge-frequency study, but was due to routing analyses for the Sheyenne River Diversion and is documented in the FEMA FIS (Flood Insurance Study) dated 2 November 1995
  - The effective FEMA 1% discharge value at Fargo and Moorhead continues to be 29,300 cfs, as confirmed in the 2015 FIS study booklet from FEMA

- Additional: The three highest flood years have occurred since then - 1997, 2009, and 2011. Of the 22 years with a peak flow greater than the FEMA 10-year flood discharge, 15 have occurred since 1971.

Updated Red River Hydrology

- Updated hydrology was completed for the Fargo-Moorhead Metropolitan Area Flood Risk Management Study in April 2011 by USACE, St. Paul District
  - The hydrologic analysis followed the standard USACE approach for a regulated watershed and was reviewed by FEMA Region VIII
  - An expert opinion elicitation (EOE) process convened a panel of flood experts that recommended a Wet and Dry period discharge-frequency analysis
  - The regulated 1% discharge at Fargo for the Wet period (1942 to 2009) is 34,700 cfs
  - The regulated 1% discharge at Fargo for the full period of record (1882, 1897, 1902 to 2009) is 33,000 cfs
  - In summary, the USACE analysis is defensible and detailed and the updated 1% discharges are reasonable and appropriate for future hydraulic analyses
- The current Fargo-Moorhead Diversion CLOMR leverages the updated hydrology
  - The proposed flood control project design is based on the wet period hydrology
  - Revised post-project floodplain mapping is based on the full period of record hydrology

Mapping, the NFIP and the FM Project

- Once the project is re-designed, FEMA anticipates that a new CLOMR request will be provide to FEMA
- Once the project is built, the project sponsor will submit to FEMA a request for a LOMR to revise the effective FIRM to reflect the impacts of the project. Evidence of mitigation will be required in order to issue the LOMR(s).
  - Until that time, flood insurance rates and mandatory purchase requirements will not change as a result of the FM Diversion project
  - Until evidence of mitigation action has been completed and received, FEMA will not issue a LOMR, Letter of Map Amendment (LOMA), or Letter of Map Revision based on Fill (LOMR-F) based on the mitigation efforts or the effects of the larger project
  - The community must show that the flood hazard to the affected structures has been mitigated before FEMA will issue a map revision

QUESTIONS?

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