Meeting Opening and Introductions

Doug Sims, Floodplain Administrator for Fairbanks North Star Borough (the Borough), opened the meeting with Ted Perkins, Regional Engineer with FEMA Region X, and all attendees introduced themselves. A sign-in sheet was distributed to attendees to fill in their contact information. Copies of the attendance sheet were provided to all attendees by the Borough.

Introduction to the National Flood Insurance and Map Modernization Programs

Mr. Perkins provided a brief overview of how the National Flood Insurance Program (NFIP) works, including the three disciplines of the NFIP: Mapping – Flood Studies; Regulations; and Insurance. Mr. Perkins also discussed the Map Modernization program and why this program was implemented by FEMA.

Overview of Study Details for the Map Modernization Project in Fairbanks North Star Borough, AK

Mr. Perkins discussed the study details that have changed since the effective Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRMs) were published in the 1990’s. Mr. Perkins discussed the vertical datum change and conversion factor (+5.1 feet) applied to the preliminary Digital Flood Insurance Rate Maps (DFIRM) products. Mr. Perkins discussed the benefits of soon having a DFIRM database that can be added into the community’s Geographic Information System (GIS) and overlaid on top of other GIS data layers such as aerial imagery and land ownership information. Mr. Perkins discussed the flood zone designation changes seen on the preliminary DFIRM products and the associated zone labels found on the FIRMs. Mr. Perkins listed the mapping contractors that have worked on the project and the project timeline.

Emily Whitehead, Project Manager for STARR, discussed the scope of work of the flood study. The scope of work included the incorporation of two new detailed studies: a groundwater flooding study for South Fairbanks and a detailed study of the Tanana River (1-percent-annual chance flood). The scope of work also included a vertical datum conversion and digital capture of the effective detailed studies of Chena River, Little Chena River and Noyes Slough. Ms. Whitehead also touched on the base map updates for the Preliminary and Revised Preliminary DFIRM products.

Mr. Perkins showed a floodway schematic and explained the details regarding how a floodway is calculated following FEMA guidelines. Mr. Perkins also discussed Non-Levee Embankments and the Tanana River DFIRM revisions upstream of the accredited levee.
Overview of the Adoption Process and Post Preliminary Processing Phases

Mr. Perkins discussed the timeline of events for the Post Preliminary Processing phase and the protocol for submitting appeals and/or comments on the preliminary or revised preliminary DFIRM products. Mr. Perkins also noted that the Letter of Map Change (LOMC) process is a way to appeal the FIS or FIRMs at any time. Mr. Perkins discussed future steps after the appeal period ends and detailed regarding the Letter of Final Determination (LFD).

Overview of Public Meeting Format and Agenda

Mr. Perkins discussed the table layout and agenda for the public meetings:

September 25, 2012
7:00-9:00pm local time
Salcha Elementary School
8530 Richardson Highway
Salcha, AK 99714

September 26, 2012
7:00-9:00pm local time
Borough Assembly Chambers
809 Pioneer Road
Fairbanks, AK 99701

The public meetings will include tables set up around the room for attendees to visit following the brief introductory presentations by the Borough and FEMA. The following tables will available at the public meetings: Property Identification & Digital Mapping, Fairbanks North Star Borough, Flood Insurance, Flood Study/Engineering, Floodplain Regulations and the State of Alaska. Lastly, Mr. Perkins closed the presentation with opening the floor for questions and/or comments.

Comments or discussions following the Flood Study Review Presentation:

Question regarding whether there is a way to stabilize a non-levee embankment so it is considered accredited? Mr. Perkins explained that a Professional Engineer (PE) would need to certify and stamp the levee, but sometimes railroads and Departments of Transportation don't want the liability associated with the certification.

Question from Jeff Jacobson, Chief of Staff for Fairbanks North Star Borough, about the Grandfathering Rule. Kristin Minich, an NFIP Insurance Specialist with OST Global, answered the question. There were also discussions about the preferred risk policy 2-year window and that the new insurance rate is effective once the now preliminary maps go effective (projected to be January 16, 2014).

Question from Mr. Jacobson regarding how to most efficiently submit comments or appeals. Josha Crowley, a Senior Engineer with STARR and RSCX lead, and Mr. Perkins explained that it would be best to bundle any public comments and have the Borough review them and provide their input in a letter that also includes comments or appeals from the Borough. Karen Wood-McGuiness, with FEMA Region X, mentioned that FEMA brought templates for public comments. These will be available at the evening public meetings for residents in attendance. Mr. Perkins also explained the
details regarding submitting an appeal versus a comment. In order to submit an appeal, there must be technical data to support changing the map, and the change depends on the scale of the appeal.

Question from Mayor Luke Hopkins, Fairbanks North Star Borough, regarding the origin of the Scientific Resolution Process (SRP). Mr. Perkins explained that the SRP started roughly a year and a half ago, not from any specific event but that it is an avenue available to communities if they so choose.

Mr. Sims, Mr. Jacobson and Ms. Wood-McGuiness discussed details regarding ordinance adoption and code language.

Mayor Hopkins mentioned the Eielson Air Force Base and the concern with the Richardson Highway expansion area. Bill Rice from Eielson Air Force Base mentioned that the majority of their concerns have been addressed with the latest preliminary mapping revisions using the elevation data that the air force base provided to STARR.

Attachments: Meeting Presentations & Sign-in Sheets
Fairbanks - North Star Borough, Alaska
Flood Study Review Session

September 25, 2012
Flood Study Review

- Background
- Flood Study Methodologies
- Review of Data/Changes from Existing Maps
- Appeal/Comment Process
- Map Adoption Process
How the NFIP Works

Three disciplines of the NFIP:

• Mapping – Flood Studies
• Regulations
• Insurance
What is Map Modernization?

Through Map Modernization…

…FEMA will provide digital flood insurance rate maps and studies…

…for communities nationwide…

…that are more accurate, easier to use, and more readily available.
Why Modernize?

- Outdated maps (16-20 years old)
- Physical changes in floodplains – man-made and natural
- Digital format enables overlays/analysis
- Easier to update maps
- Maps are foundation for flood risk reduction and insurance (5.6 million policies, 1.2 trillion coverage)
• New maps are Partial Borough-wide Study
• Follows a USGS Quad layout – Borough-wide coverage with no city “cut-outs”
• Contains 100- & 500-year floodplains (AE/X zones)
• 10, 50, 100, 500 year flood elevations published (depending on the detailed study reach)
• Incorporation of two new detailed studies: a groundwater flooding study for South Fairbanks and a 1985 U.S. Army Corp of Engineers study along Tanana River with floodway added
• Vertical Datum change (NGVD 1929 to NAVD 1988)
What’s New

Vertical Datum Change

- **NGVD 29**
  - Based on a mean sea level from 21 tidal stations in the US & 5 stations in Canada

- **NAVD 88**
  - Based on the density of the Earth instead of varying values of sea heights
  - More accurate

- **Conversion for Fairbanks North Star Borough**
  - NGVD + (vertical adjustment’) = NAVD
  - Conversion factor for Borough for FIS is 5.1 feet
Digital Flood Insurance Rate Maps

Vertical Datum and FIRMs (e.g. uses 5.1’ conversion)

NGVD 29

15
10
5
0

BFE = 2 ft

NAVD 88

15
10
5
0

BFE = 7.1 ft
Apply local parcel and topo layers…

Digital Flood Insurance Rate Maps
<table>
<thead>
<tr>
<th>Old FIRMs</th>
<th>New FIRMs</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>A</td>
<td>Approximate Floodplain (SFHA)</td>
</tr>
<tr>
<td>A1- A30</td>
<td>AE</td>
<td>Detail River Floodplain (SFHA)</td>
</tr>
<tr>
<td>A99</td>
<td>A99</td>
<td>Protected by Levee</td>
</tr>
<tr>
<td>AH</td>
<td>AH</td>
<td>Shallow Floodplain with BFE</td>
</tr>
<tr>
<td>AO</td>
<td>AO</td>
<td>Shallow FP without BFE</td>
</tr>
<tr>
<td>B</td>
<td>X (shaded)</td>
<td>500 Year Floodplain</td>
</tr>
<tr>
<td>C</td>
<td>X (un-shaded)</td>
<td>Outside 500 Year Floodplain</td>
</tr>
<tr>
<td>D</td>
<td>D</td>
<td>Undetermined Floodplain</td>
</tr>
<tr>
<td>V</td>
<td>V</td>
<td>Approx Coastal Floodplain</td>
</tr>
<tr>
<td>V1-30</td>
<td>VE</td>
<td>Detailed Coastal Floodplain</td>
</tr>
</tbody>
</table>
• **AE Zone**

• **X Zone**
  (shaded)

• **Floodway**

---

**Digital Flood Insurance Rate Maps**

**FIRM Labels**
Fairbanks-NorthStar Borough Flood Study Details

Contractors: Michael Baker, Inc. NHC STARR
<table>
<thead>
<tr>
<th>Activity</th>
<th>Actual or Projected Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scoping Meeting</td>
<td>April 2007</td>
</tr>
<tr>
<td>FIRM Preliminary Date</td>
<td>June 30, 2009</td>
</tr>
<tr>
<td>First 90-day Appeal Period Start Date</td>
<td>October 12, 2009</td>
</tr>
<tr>
<td>First 90-day Appeal Period End Date</td>
<td>January 10, 2010</td>
</tr>
<tr>
<td>Second 90-day Appeal Period Start Date</td>
<td>June 10, 2010</td>
</tr>
<tr>
<td>Second 90-day Appeal Period End Date</td>
<td>September 8, 2010</td>
</tr>
<tr>
<td>Revised Preliminary FIRM Date</td>
<td>July 27, 2012</td>
</tr>
<tr>
<td>Flood Study Review and Public Meetings</td>
<td>September 25-26, 2012</td>
</tr>
</tbody>
</table>
Scope of Work

• Incorporation of two new detailed studies:
  – Groundwater flooding study for South Fairbanks
  – Detailed study of Tanana River (1-Percent-Annual Chance Flood) developed from:
    • 1985 USACE HEC-2 model was converted into a HEC-RAS study with vertical datum shift applied.
    • ARRC provided a HEC-RAS model based on updated topographic information for the upper four miles of the Tanana River 58-mile study reach. 40 miles is within Fairbanks – North Star Borough
    • The ARRC model was incorporated into the 1985 USACE model.
    • A floodway analysis was conducted using the latest, merged Tanana River model.
Scope of Work

- Chena River and Little Chena Rivers, and Noyes Slough are effective detailed studies that were converted from NGVD29 to NAVD88 (vertical shift of +5.1 feet applied)
- Digital Conversion of approximate (Zone A) Special Flood Hazard Areas
- Adjustments where necessary to match underlying orthoimages and vector base map information
• Base Map Updates for the Preliminary and Revised Preliminary DFIRM:

The base map information shown on the FIRM was derived from multiple sources. Base map files were provided in digital format by Fairbanks North Star Borough, AK DNR, USGS and BLM. This information was compiled at multiple scales during the time period 2001-2009.
FLOODWAY + FLOODWAY FRINGE = 100 YEAR FLOODPLAIN
SURCHARGE NOT TO EXCEED 1.0 FEET
Tanana River and Non-Levee Embankments
Non-Levee Embankments
Tanana River and Non-Levee Embankments

Note:


Legend:
- Elevation Points
- Cross Sections
- Flood Zone
- 2% PCT ANNUAL CHANGE FLOOD
- 1% PCT ANNUAL CHANGE FLOOD HAZARDS

Note: Flood hazard information shown on this map is draft and for advisory purposes only. This map and the related data is subject to revision. Information should not be used for regulatory, flood zone identification, or insurance rating purposes.
# Post Preliminary Processing

## Timeline of events

<table>
<thead>
<tr>
<th>Event Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revised Preliminary maps</td>
<td>July 27, 2012</td>
</tr>
<tr>
<td>Flood Study Review Meeting</td>
<td>September 25, 2012</td>
</tr>
<tr>
<td>Public Meeting</td>
<td>September 25-26, 2012</td>
</tr>
<tr>
<td>90 day appeal period begins after 2nd public notice in local newspaper</td>
<td>Est. January 2013</td>
</tr>
<tr>
<td>90-day appeal period ends</td>
<td>Est. April 2013</td>
</tr>
<tr>
<td>FEMA issues “Letter of Final Determination (LFD)” to communities and publishes the BFEs in the Federal Register</td>
<td>Est. July 2013</td>
</tr>
<tr>
<td>Effective date</td>
<td>Est. January 2014</td>
</tr>
</tbody>
</table>
• Submitted to community officials
• Community bundles all the comments and forwards them to Region 10 Support Center

FEMA Region X Service Center
20700 44th Ave. W., Suite 110
Lynnwood, WA 98036

• Forms are available here at the open house
**Letters of Map Change (LOMC)**
(WAYS TO APPEAL AT ANY TIME)

- **LOMA** - for property owners who believe a property was incorrectly included in a SFHA. An elevation certificate supports a LOMA, but by itself, does not remove the insurance requirement.

- **LOMR** – removes land that has been graded or filled (physical changes) since the date of the map. A LOMR can waive flood insurance requirements.

- **(LOMA) Hotline** - 1-877-FEMA-MAP
Future Steps after Appeal Period Ends

- FEMA addresses submitted comments
- Local jurisdictions adopt an ordinance that is compliant with your map and FEMA standards
- Local jurisdictions develop and implement outreach strategies, if desired.
- Upon receipt of LFD, local jurisdictions begin enforcing the maps
Letter of Final Determination (LFD)

• Starts with the Letter of Final Determination (LFD) stating that the Appeals have been resolved, if applicable
• Officially notifies community of final base flood elevations
• Indicates effective date of FIRMs as 6 months from the date of the letter
• Ordinance meeting FEMA regulations **MUST** become effective by end of 6 months or community will be suspended
• Floodplain Regulations
• Hazard Mitigation Plan?
• Emergency Management?
- State Floodplain Mapping Priorities
- State Regulations
- Hazard Mitigation Plans?
- Emergency Management?
<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEMA Flood Study Engineer</td>
<td>Ted Perkins</td>
<td>(425) 487-4684</td>
</tr>
<tr>
<td>FEMA NFIP Insurance Specialist</td>
<td>Deb Farmer</td>
<td>(425) 487-2023</td>
</tr>
<tr>
<td>FEMA Risk Analyst/GIS Specialist</td>
<td>Jen Monroe</td>
<td>(425) 487-4753</td>
</tr>
<tr>
<td>AK RiskMAP Coordinator</td>
<td>Sally Cox</td>
<td>(907) 269-4588</td>
</tr>
<tr>
<td>AK NFIP Coordinator</td>
<td>Taunnie Boothby</td>
<td>(907) 269-4583</td>
</tr>
<tr>
<td>AK Hazard Mitigation Officer</td>
<td>Ann Gravier</td>
<td>(907) 428-7045</td>
</tr>
<tr>
<td>Flood Insurance Information</td>
<td></td>
<td><a href="http://www.floodsmart.gov">www.floodsmart.gov</a></td>
</tr>
<tr>
<td>FAQs for Preliminary FIS usage</td>
<td></td>
<td><a href="http://www.fema.gov/plan/prevent/floodplain/fis_data.shtm#4">www.fema.gov/plan/prevent/floodplain/fis_data.shtm#4</a></td>
</tr>
</tbody>
</table>
Flood Mapping Project

Summary and Update

September 25, 2012
Timeline

- May 2007—Map revision project initiated with FEMA. Priority to South Fairbanks based on out of date mapping and financial impact of un-warranted flood insurance costs to property owners. Chena Badger Slough and Salcha were identified as future priorities once better topography is obtained.

- Summer 2008—FEMA consultant Northwest Hydraulics completes the Flood Insurance Mapping Study for South Fairbanks Local Drainage. It identifies groundwater as the principal flooding threat. Mapping halted due to levee recertification project.

- May 2009—FNSB completes the Levee Recertification

- June 30, 2009—FEMA releases the 1st Preliminary set of flood maps. New base flood elevations are proposed for Lower Chena River and Salcha that the Borough believes are too high.
Timeline

- January 10, 2010—Borough files an appeal of the maps based on technical and scientific data provided by the Alaska Railroad which show the preliminary flood maps to be in error.

- March 18, 2011—FEMA agrees with the FNSB appeal and publishes a Revised Preliminary map that does not include a floodway nor does it identify the Richardson Highway as a “non levee embankment”. This FEMA oversight sends maps back to the drawing board for further revision.

- July 27, 2012—FEMA releases a 2nd Revised Preliminary map. A floodway on the Tanana is included and new areas added east of the Richardson Highway.
What are the Significant Changes

South Fairbanks
Perkins Landing

Current flood map

Revised preliminary map
Wrangell Subdivision
Richardson Hwy/Johnson Rd—current map

Zone A
Without a floodway on the Tanana River, new development in Zone AE including fill, would have had to demonstrate that the cumulative effect of the development when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot.

With the floodway in place, the development standard is relaxed.
What’s Next?

- Open Houses with FEMA staff scheduled:
  - September 25th at Salcha School 7-9 pm
  - September 26th Borough Assembly Chambers 7-9 pm

- Public Outreach to affected neighborhoods in South Fairbanks, Salcha, Chena Badger slough who are being brought into the flood zone as a result of the map changes.

- Outreach to affected groups; surveyors, realtors, mortgage lenders, insurance agents.

- All conducted prior to closure of the Appeal Period, projected to be April 1, 2013.
Letter of Final Determination (LFD)

After FEMA resolves all outstanding appeals, comments, they issue a Letter of Final Determination.

Once the LFD is issued, the Borough has 6 months in which to adopt the maps by ordinance and make any necessary revisions to Title 15.

The LFD is projected to be issued by FEMA in July 2013. Projected map effective date is January 2014.
AGENDA

• 7:00 : Doors Open
• 7:10 : Fairbanks-North Star Borough Presentation
• 7:20 : FEMA Presentation
• 7:35-8:00 : Open House
• 8:00-8:15 : Outstanding Questions
• 8:15-9:00 : Open House
Fairbanks-North Star Borough, Alaska
Flood Study Open House

September 25, 2012
What we will discuss

Flood Insurance Study (FIS)

- Background of the National Flood Insurance Program
- Areas of Study
- Process and Schedule
- Open House Layout

National Flood Insurance Program

Purpose – To reduce economic loss caused by flood events

• Maps the flood risk and assign insurance rates (FIRMs)
• Makes flood insurance available
• Sets minimum floodplain construction standards
• Reduces dependency on structural flood control
• Promotes floodplain management practices
How the NFIP Works

Three disciplines of the NFIP:

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- Regulations
- Insurance
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…for communities nationwide…

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• NAVD 88
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  – More accurate

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Digital Flood Insurance Rate Maps
Vertical Datum and FIRMs (e.g. uses 5.1’ conversion)

NGVD 29

BFE = 2 ft

NAVĐ 88

BFE = 7.1 ft
Digital Flood Insurance Rate Maps

Digital Format

- Special Flood Hazard Areas
- Land Ownership
- Transportation
- Surface Waters
- Boundaries
- Geodetic Control
- Elevation
- Aerial Imagery
Apply local parcel and topo layers…

Digital Flood Insurance Rate Maps
• AE Zone

• X Zone (shaded)

• Floodway
Groundwater flooding study for South Fairbanks
Detailed study of Tanana River – 40 miles with Floodway
FLOODWAY + FLOODWAY FRINGE = 100 YEAR FLOODPLAIN
SURCHARGE NOT TO EXCEED 1.0 FEET
Tanana River and Non-Levee Embankments
Non-Levee Embankments
90 Day Appeal Period ~ January-April 2013?
  - Appeals must be submitted by Community

Appeal Resolution ~ 60 days (+/-)

Letter of Final Determination (LFD)~ July 2013

6 Month Adoption Period
Letters of Map Change (LOMC) (Ways to Appeal at Any Time)

• **LOMA** - for property owners who believe a property was incorrectly included in a SFHA. An elevation certificate supports a LOMA, but by itself, does not remove the insurance requirement.

• **LOMR** – removes land that has been graded or filled (physical changes) since the date of the map. A LOMR can waive flood insurance requirements.

• **(LOMA) Hotline - 1-877-FEMA-MAP**
<table>
<thead>
<tr>
<th>Information Tables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flood Insurance</td>
</tr>
<tr>
<td>Flood Study /</td>
</tr>
<tr>
<td>Engineering</td>
</tr>
<tr>
<td>Property Identification &amp; Digital Mapping</td>
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<tr>
<td>Fairbanks-North Star Borough</td>
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<tr>
<td>Floodplain</td>
</tr>
<tr>
<td>Regulations</td>
</tr>
<tr>
<td>State of Alaska</td>
</tr>
<tr>
<td>Property Identification and Digital Mapping Table</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>• Determining if one is in a Flood Zone</td>
</tr>
<tr>
<td>• If yes, what type of flood zone is one in (AE, A, AO, AH, V, VE, Shaded X, unshaded X)</td>
</tr>
<tr>
<td>• Ability to add layers to help better locate a property (orthophotos, parcel data)</td>
</tr>
<tr>
<td>• Print a map of your property and the flood zone</td>
</tr>
<tr>
<td>• Where one should go next for more information (Insurance, Floodplain Regulations)</td>
</tr>
</tbody>
</table>
• Pre-printed maps for structures added
• Local Regulations
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>When is flood insurance required?</td>
<td></td>
</tr>
<tr>
<td>What is the flood insurance rate structure for the zone one is in (AE,</td>
<td></td>
</tr>
<tr>
<td>A, AO, AH, V, VE, Shaded X, unshaded X)?</td>
<td></td>
</tr>
<tr>
<td>What are my best options to get the lowest rate?</td>
<td></td>
</tr>
</tbody>
</table>
• What are the building requirements/restrictions for the zone one is in (AE, A, AO, AH, V, VE, Shaded X, unshaded X)
<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>How was the 1% (100-year) flood derived?</td>
</tr>
<tr>
<td>What area was updated?</td>
</tr>
<tr>
<td>What information was used (bathymetry, topography, tide gages, wind data)?</td>
</tr>
<tr>
<td>What is the process to appeal the information and/or provide better information?</td>
</tr>
</tbody>
</table>
• State Floodplain Mapping Priorities
• State Regulations
• Hazard Mitigation Plans
• Emergency Management
• Submit to your community officials

• Community bundles all the comments and forwards them to Region 10 Support Center

FEMA Region X Service Center
20700 44th Ave. W., Suite 110
Lynnwood, WA 98036

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