Summary

- City & County of San Francisco does not currently:
  - Participate in the NFIP
  - Have a published Flood Insurance Rate Map (FIRM)

- FEMA released preliminary Flood Insurance Rate Map (FIRM) for:
  - CCSF in September 2007
  - San Mateo County, including SFO, in April 2008

- CCSF must adopt and enforce a floodplain management ordinance to participate in the NFIP

- City Administrator has prepared draft ordinance for Board of Supervisors review
FIRM for San Francisco

- FEMA manages the NFIP using a nationwide system of flood maps
- The FIRM:
  - Shows areas with 1% annual chance of flooding (100-year flood)
  - Includes bay and coastal flood hazards
  - Reflects current conditions
  - Does not reflect future conditions, such as sea level rise due to climate change
- Used as the basis for:
  - Insurance rating
  - Local floodplain management ordinance
FIRM for San Francisco

- 2007 preliminary FIRM is based on approximate analysis
- FEMA is preparing more detailed analysis of San Francisco Bay – completed in 2009-2010
- If CCSF joins the NFIP now, FEMA will:
  - Not publish the preliminary FIRM based on the approximate analysis
  - Publish a FIRM based on the more detailed analysis in 2+ years
Flood Zones

- Flood zones shown on the preliminary FIRM for CCSF:
  - Zone A: Area of coastal flooding with no wave hazard, or waves less than 3 feet in height
  - Zone V: Area of coastal flooding subject to wave hazards
  - Zone X: minimally flood prone
Flood Zones on Preliminary FIRM
North Waterfront

Pier 45

Pier 27
Flood Zones on Preliminary FIRM
Mission Bay Area

Sixth Street Off-Ramp

AT&T Park
Flood Zones on Preliminary FIRM
Hunters Point/Candlestick Area

City and County of San Francisco
060298

San Francisco Bay

ZONE A
ZONE V
ZONE X

Candlestick Park
Flood Zones on Preliminary FIRM
Treasure Island
Flood Zones on Preliminary FIRM
Pacific Shoreline

Great Highway

SF Zoo
Flood Zones on Preliminary FIRM SFO

Shown on April 2008 preliminary FIRM for San Mateo County
Floodplain Management Ordinance: Basic Requirements

- New and substantially improved structures in flood zones must be:
  - Elevated to or above flood elevation
  - Designed below flood elevation to resist flood damage

Mission Bay Area
Basic Requirements
Structures in Zone A

Residential Structures

Lowest floor of living space must be at or above flood elevation

Flood Elevation

Ground Elevation

Area below flood elevation must be constructed of flood-resistant materials
Basic Requirements
Structures in Zone A

Commercial Structures

May be “floodproofed” to or above flood elevation

Flood Elevation

Ground Elevation

Area below flood elevation must be watertight
Basic Requirements
Structures in Zone V

All Structures

Lowest horizontal member must be at or above wave height

Wave Height Elevation

Ground Elevation

Walls below wave height elevation must be constructed of breakaway materials
Basic Requirements
Structures in Zone V

- No new construction or substantial improvement seaward of mean high tide in Zone V

Pier 27-31 Area
Strategies for Addressing Piers

- Variances can be implemented for:
  - Historic structures
  - “Functionally dependent” uses, e.g. maritime uses requiring proximity to water
- FEMA may consider allowing CCSF to permit construction on piers based on height of waves and structural integrity of piers
- City Administrator submitted a letter to FEMA requesting confirmation of approach to piers
Implementation of Ordinance

- Because FEMA has not yet published FIRM, CCSF has developed “interim map”:
  - Based on flood hazards shown on preliminary FIRM
  - Incorporates CCSF base map and topographic information
- Use interim map to identify structures/parcels located in flood zones
- Incorporate elevation requirements into permitting process for new or substantially improved structures
- Check design details for:
  - Proper elevation
  - Use of flood-resistant materials
  - Proper design/calculations for floodproofing
- May require preparation/submittal of Elevation Certificates documenting lowest floor elevations
Implementation of Ordinance

- City Administrator will serve as floodplain administrator and City will join the National Flood Insurance Program.
- Procedures to be developed through collaboration among:
  - DBI
  - Planning
  - PUC
  - SFO
  - Mayor’s Office
  - DPW
  - Port
  - Redevelopment
  - Treasure Island Project Office of Economic and Workforce Dev
Additional Information

- City Administrator’s webpage under Programs and Projects
  - Floodplain Management Program
  - [www.sfgov.org/floodplain](http://www.sfgov.org/floodplain)
- Maps
- BOS
- Presentations
- Fact Sheet
- FEMA preliminary
- CCSF Interim
- Land Use Committee (10/22/07)
- Port
- Treasure Island
Questions regarding the FIRM, the NFIP, and the floodplain management ordinance:

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