

SAN FRANCISCO FLOODPLAIN MANAGEMENT PROGRAM

COMPLIANCE PROCEDURES



Office of the City Administrator
City and County of San Francisco
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Acronyms and Abbreviations

Airport	San Francisco International Airport
BF E	Base (1-percent-annual-chance) Flood Elevation
BICE	Building Inspection and Code Enforcement (at Airport)
BEM	Bureau of Environmental Management (at SFPUC)
CAV	Community Assistance Visit
CCSF	City and County of San Francisco
CFR	Code of Federal Regulations
DBI	Department of Building Inspection
DEM	Department of Emergency Management
DPW	Department of Public Works
DWR	California Department of Water Resources
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
IPR	Interdepartmental Project Review
LOMA	Letter of Map Amendment
LOMC	Letter of Map Change
LOMR	Letter of Map Revision
LOMR-F	Letter of Map Revision (Based on Fill)
NAVD 88	North American Vertical Datum of 1988
NFIP	National Flood Insurance Program
OEWD	Office of Economic and Workforce Development
PL	Public Law
Port	Port of San Francisco
Procedure	Design Review and Document Approval Procedure (TIDA)
SFFD	San Francisco Fire Department
SFHA	Special Flood Hazard Area
SFPUC	San Francisco Public Utilities Commission
SFRA	San Francisco Redevelopment Agency
TIDA	Treasure Island Development Authority



OFFICE OF THE CITY ADMINISTRATOR



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The information contained herein, including links to websites and uses as references, is current as of July 27, 2011. The Office of the City Administrator and the Risk Management Division of the CCSF General Services Agency will periodically update this document to reflect changes in the floodplain management ordinance, information regarding flood hazard data, and changes in procedures. Contact the Office of the City Administrator or Risk Management Division with comments regarding information that requires updating or with questions regarding the document.

1. Introduction

On April 1, 2010, CCSF became a participant in the National Flood Insurance Program (NFIP). In order to participate in the NFIP, CCSF had to adopt a floodplain management ordinance that met the minimum requirements of the program. Under the ordinance, CCSF regulates construction and substantial improvement/repair of buildings located within identified flood hazard areas to ensure that risks of flood damage are reduced. The ordinance applies to all properties within CCSF, and to CCSF-sponsored properties¹ outside of CCSF.

This document describes the procedures for implementation of the floodplain management ordinance by CCSF agencies/departments. The text of the floodplain management ordinance is provided in Appendix A.

1.1 Scope

The ordinance and these procedures pertain to buildings. In general, this refers to walled and roofed residential and non-residential buildings that are principally above ground, and utility systems associated with those buildings. It does not include infrastructure, such as streets, seawalls, water and sewer lines, and airport runways. Additionally, the ordinance applies only to identified flood hazard areas, as described in Section 2.2.

This document describes the role of the City Administrator's Office as Floodplain Administrator, and provides an overview of the roles and processes of CCSF agencies and departments that have responsibilities for implementation of the floodplain management ordinance. However, this document does not describe the specific procedures of these agencies and departments in detail. Each agency/department is responsible for developing its own, more-detailed procedures for ensuring that CCSF implements the floodplain management ordinance properly.

1.2 Applicability

The proper implementation of the ordinance requires the participation of the City Administrator's Office, as the designated Floodplain Administrator for CCSF, as well as those CCSF agencies/departments with jurisdiction over planning and construction within CCSF and for CCSF-sponsored properties outside of CCSF, as well as emergency management and hazard mitigation. These agencies/departments are:

- Department of Building Inspection (DBI)
- Department of Emergency Management (DEM)
- Department of Public Works (DPW)
- Office of Economic and Workforce Development (OEWD)
- Planning Department
- Port of San Francisco (Port)
- San Francisco International Airport (Airport)
- San Francisco Public Utilities Commission (SFPUC)

¹ CCSF-sponsored properties are those that are owned, planned, developed, built, and/or maintained by the CCSF either on land owned or leased by the CCSF.

- San Francisco Redevelopment Agency (SFRA)
- Treasure Island Development Authority (TIDA)

2. Overview of the National Flood Insurance Program

This section provides a brief overview of the NFIP and how it applies to CCSF.²

2.1 The National Flood Insurance Program

Congress initiated the NFIP in 1968 with the passage of the National Flood Insurance Act (Public Law [PL] 90-488). Congress later modified the program through passage of the Flood Disaster Protection Act of 1973 (PL 93-234) and the National Flood Insurance Reform Act of 1994 (PL 103-325). The NFIP is designed to reduce the risk of flood damage in flood-prone communities, and to reduce the public burden of responding to, and recovering from, floods. Under the NFIP, the Federal government provides financial backing for the sale of affordable flood insurance to property owners within communities that participate in the program. In exchange, a participating community must agree to adopt and enforce a floodplain management ordinance that implements standards for development within identified flood-prone areas, thereby reducing the risk of future damage due to flooding, and the need for Federal disaster assistance following floods. Federal regulations for the implementation of the NFIP are found in Title 44 of the Code of Federal Regulations (CFR), Parts 59 – 72.

The Federal Emergency Management Agency (FEMA) manages the NFIP on a nationwide basis. Oversight for the program in California is the responsibility of FEMA's Region IX office. This office is responsible for both assisting communities with efforts to join the NFIP, and ensuring that participating communities are complying with program requirements. FEMA works closely with the state NFIP Coordinator, the California Department of Water Resources (DWR), to implement the NFIP in California. The current point of contact for FEMA is:

Gregor Blackburn
Chief, Floodplain Management and Insurance Branch, Mitigation Division
FEMA, Region IX
1111 Broadway, Suite 1200
Oakland, California 94607
(510) 627-7186
Gregor.Blackburn@dhs.gov

The current state NFIP Coordinator for California is:

Ricardo Pineda, PE, CFM
California Department of Water Resources
3464 El Camino Avenue Suite 200
Sacramento, California 95821

² More detailed information regarding the NFIP can be obtained from the NFIP website at <http://www.floodsmart.gov/floodsmart/>.

(916) 574-1475
rpineda@water.ca.gov

2.2 Flood Hazard Mapping for San Francisco

In support of the NFIP, FEMA prepares Flood Insurance Rate Maps (FIRMs) for communities that participate in the program. The FIRM for a community shows Special Flood Hazard Areas (SFHAs) that FEMA has identified within that community.³ An SFHA is a riverine or coastal area that is subject to flooding during an event that has a 1-percent chance of occurrence in a given year (also known as the base flood or 100-year flood). For a FIRM prepared with detailed hydrologic and hydraulic analyses, FEMA adds Base (1-percent-annual-chance) Flood Elevations (BFEs) to the FIRM.⁴ The BFE is the computed elevation to which floodwaters are anticipated to rise during a 100-year flood. In most cases, the FIRM is accompanied by a Flood Insurance Study (FIS) that provides technical data regarding the FIRM.

The FIRM for a community is used for several purposes:

- Communities, states, and Federal agencies use them as the basis for regulating construction in flood-prone areas.
- Insurance agents use them when rating flood insurance policies.
- Lenders use them to determine when flood insurance must be purchased as a condition of a loan or financial assistance.

Flood Hazards within San Francisco

FEMA has not published a FIRM for areas within CCSF. In 2007, FEMA provided CCSF with a preliminary FIRM based on an ongoing restudy of flood hazards associated with San Francisco Bay. However, because that analysis was not complete, FEMA did not finalize the FIRM. FEMA expects to complete the bay analysis in the fall of 2011, and will proceed with publication of FIRM after the analysis is complete. The FIRM is projected to become “effective” (that is, used for insurance and floodplain management purposes) in 2012 or 2013.

Because CCSF currently does not have an effective FIRM, CCSF developed the CCSF Interim Floodplain Map, dated July 2008, to support the implementation of the floodplain management ordinance (see Appendix B).⁵ The CCSF Interim Floodplain Map shows approximate floodplain boundaries for a 100-year flood, displayed on an aerial map showing CCSF’s streets and coastlines. The floodplain boundaries shown on the map are entirely related to coastal flood

³ This document uses “SFHA” when referring to a flood hazard area shown on an effective FIRM. The document uses the term “flood hazard area” when referring to the CCSF Interim Floodplain Map or other flood hazard information not shown on an effective FIRM.

⁴ BFEs shown on FIRMs are defined in terms of the North American Vertical Datum of 1988 (NAVD 88). This datum is different from the City Datum that is used within San Francisco. FIRM users should check with the County Surveyor to determine the proper conversion between NAVD 88 and the City Datum.

⁵ The CCSF Interim Floodplain Map can be viewed at www.sfgov.org/floodplain.

hazards associated with San Francisco Bay and the Pacific Ocean; the map does not show inland flood hazard areas, such as those related to inadequate drainage. Additionally, the map does not show BFEs; the approximate elevations of flooding can be estimated using ground elevations at the limits of the floodplain boundaries. Until FEMA issues an effective FIRM, CCSF will use the CCSF Interim Floodplain Map during planning and permitting processes to regulate development within CCSF according to the floodplain management ordinance.

Flood Hazards at San Francisco International Airport

Flood hazards for the Airport are shown on the FIRM for San Mateo County (see Appendix C). When FEMA publishes a FIRM for CCSF, they will move the Airport to that map; however, until that map becomes effective, the San Mateo County FIRM is the effective map for the Airport. As shown on the San Mateo County FIRM, SFHAs affecting the airport property are designated Zone A, which FEMA defines as an SFHA determined through approximate analysis. Because the SFHA information is approximate, the FIRM does not show BFEs on the airport property.

Following the publication of the San Mateo County FIRM in the 1980s, the Airport completed construction of a shoreline protection system along the perimeter of the airport property to protect against flooding. The effective FIRM for San Mateo County does not reflect the existence of this system. Additionally, although FEMA is in the process of updating the San Mateo County FIRM, that update does not take the levees into account. FEMA will consider the impact of the levees on flood hazards as it prepares the FIRM for CCSF. In the meantime, the Airport must use the San Mateo County FIRM for floodplain management purposes.

Flood Hazards for Facilities Located Outside San Francisco

For other facilities located outside of San Francisco, such as facilities operated by SFPUC, SFHAs are shown on the FIRMs for the communities in which those facilities are located. In accordance with Section 2A.282 of the floodplain management ordinance, areas of special flood hazard identified by FEMA in its effective FISs, FIRMs, and Flood Hazard Boundary Maps that are located outside CCSF and contain CCSF-owned and operated facilities are declared to be a part of the ordinance.

2.3 San Francisco's Participation in the National Flood Insurance Program

CCSF submitted an application to join the NFIP in 2008, and was admitted by FEMA into the NFIP on April 1, 2010. Property owners and renters in San Francisco are now able to purchase federally backed flood insurance through qualified insurance brokers.

2.4 Purchase of Flood Insurance

Owners and renters of residential and non-residential property may purchase flood insurance for buildings and contents. Because FEMA has not published an effective FIRM for CCSF, flood insurance purchase is voluntary and may be purchased regardless of whether the property in

question is located in an identified flood hazard area.⁶ However, once FEMA publishes a FIRM for CCSF, property owners with loans from federally backed or regulated lenders must purchase flood insurance for properties located in SFHAs shown on the FIRM. Property owners and renters will be able to purchase flood insurance for areas outside of the SFHAs shown on the FIRM at reduced cost.

The purchase of flood insurance can affect the availability of Federal disaster assistance following Presidentially declared flooding disasters. When the President declares a disaster, FEMA provides funding to public entities, such as CCSF agencies/departments, and certain private non-profit organizations, for repair or replacement of facilities damaged during the disaster. For an insurable facility located in an SFHA and damaged floodwaters, the owner of the facility must have federally backed flood insurance to be eligible for this assistance. If the facility is not insured, FEMA is required to reduce the amount of disaster assistance.⁷ This requirement will not take effect until FEMA publishes an effective FIRM for CCSF.

3. San Francisco Floodplain Management Ordinance

CCSF Ordinance number 188-08 establishes a floodplain management program by adding Article XX, Sections 2A.280 through 2A.285 to the San Francisco Administrative Code. The ordinance was passed by the Board of Supervisors and signed by the Mayor in March 2010. The text of the ordinance is provided in Appendix A.

The ordinance reflects the minimum floodplain management criteria of the NFIP regulations, as described in 44 CFR Section 60.3(b). These regulations are provided in Appendix D.

The ordinance designates the City Administrator as the Floodplain Administrator for CCSF. Additionally, the ordinance requires:

- Issuance of permits for construction of residential and non-residential buildings in all flood-prone areas
- Review of proposed development and issuance of appropriate permits
- Review all permits to determine whether proposed building sites are safe from flooding and require anchoring and flood-resistant materials

⁶ Additional information regarding flood insurance purchase can be obtained from the NFIP website at <http://www.floodsmart.gov/floodsmart/>.

⁷ The program through which FEMA provides this funding is the Public Assistance Program. It is authorized under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 United States Code 5121-5207). Section 406(d) of the Stafford Act mandates a special reduction in the amount of Public Assistance funding for a facility that is insurable under the NFIP, located in an SFHA on a FIRM, and damaged by floodwaters. If such a facility does not have flood insurance or carries inadequate flood insurance, FEMA reduces eligible project costs by the lesser of the maximum amount of insurance proceeds that could have been obtained from a standard NFIP flood insurance policy, or the value of the facility at the time of the disaster. For additional information regarding Public Assistance Program flood insurance requirements, refer to the *Public Assistance Guide* (FEMA 322), available on the FEMA website at <http://www.fema.gov/government/grant/pa/policy.shtm>.

- Review of subdivision proposals to determine whether they are safe from flooding
- Review of permit applications to determine whether all other required state and federal permits have been obtained
- Inclusion of BFE data for all new subdivision proposals and other proposed developments greater than 50 lots or 5 acres
- Location and construction of all public utilities and facilities such as sewer, gas, electrical, and water systems within flood-prone areas such that flood damage is minimized or eliminated
- Design of water supply systems within flood-prone areas to minimize infiltration of flood waters
- Design of sanitary sewage systems within flood-prone areas to minimize infiltration and discharge
- Review and reasonable use of BFE data by the City Administrator's Office, or the agency department with jurisdiction, for permitting of structures in flood hazard areas
- Elevation of lowest floor to or above the BFE for all new construction or substantial improvements/repairs of residential structures in flood hazard areas
- Elevation or floodproofing⁸ to or above the BFE for all new construction and substantial improvements/repairs of non-residential structures in flood hazard areas
- Design (or modification) and adequate anchorage of all new construction and substantial improvements/repairs to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy
- Construction with materials and utility equipment resistant to flood damage for all new construction and substantial improvements/repairs
- Use of fully enclosed areas below the lowest floor solely for parking of vehicles, building access, or storage, with vents to allow equalization of floodwaters
- Issuance of variances only upon determination that compliance with the ordinance causes an exceptional hardship due to the unusual physical characteristics of the property, and that the variance is the minimum necessary to provide relief.

⁸ The NFIP regulations do not permit floodproofing in coastal high hazard areas, which are defined as coastal floodplains that are subject to wave action. Coastal high hazard areas are shown as Zone V or Zone VE on FIRMs. Because FEMA has not published a FIRM for CCSF, there are currently no coastal high hazard areas identified within San Francisco. Information regarding floodproofing requirements and techniques may be obtained on the FEMA website at <http://www.fema.gov/plan/prevent/floodplain/nfipkeywords/floodproofing.shtm>.

4. City Administrator's Role as Floodplain Administrator

As the designated Floodplain Administrator for CCSF, the City Administrator's Office:

- Coordinates all communication with FEMA regarding the NFIP and the floodplain maps for CCSF
- Notifies the FEMA Region IX Office and the state NFIP Coordinator within 6 months of physical changes that can affect flooding conditions
- Reviews any revisions to maps (including Letters of Map Revision (LOMRs) and Conditional LOMRs) in cooperation with the County Surveyor to ensure they meet the regulations of the floodplain management ordinance
- Manages, in cooperation with the City Attorney, the process for adoption by the Mayor and the Board of Supervisors of any required changes to the floodplain management ordinance
- Maintains, in cooperation with the County Surveyor, the current floodplain maps for flood-prone areas within CCSF's jurisdiction, including the CCSF Interim Floodplain Map and the effective FIRM, once FEMA publishes it; appropriate flood hazard and BFE data available from Federal, state, or other sources; and effective FISs, FIRMs, and Flood Boundary and Floodway Maps for those communities located outside San Francisco that contain CCSF-owned and -operated facilities. If FEMA provides additional flood hazard data, or CCSF obtains additional flood hazard data from another source, the City Administrator's Office will work with DPW to update flood-prone area maps in a form sufficient for public review and use
- Ensures that all applicable CCSF agencies/departments establish and maintain procedures for implementing the floodplain management ordinance
- Maintains, in cooperation with the County Surveyor, DBI, the Port, and the Planning Department, copies of applicable permit documents, including elevation certificates, floodproofing certificates, and variance requests for new or substantially improved/ repaired structures in identified flood hazard areas
- Ensures that variances to the floodplain management ordinance are appropriate and tracked for record-keeping purposes
- Coordinates Community Assistance Visits (CAVs) conducted by FEMA or DWR.

5. General Roles of City and County of San Francisco Agencies/Departments

Table 1 provides an overview of the roles of CCSF agencies/departments in the implementation of the floodplain management ordinance. See Appendix E for a list of departments and contact names. Applicable procedures for each agency and department are described in Section 7, below.

Table 1: Roles of City and County of San Francisco Agencies/Departments

Agency/Department	Role
DBI	<ul style="list-style-type: none"> ▪ Ensures that designs for new construction and substantial improvements/repairs comply with the floodplain management ordinance ▪ Issues permits for new construction and substantial improvements/repairs, including individual buildings or complexes, OEWD, SFRA, and TIDA projects as appropriate ▪ Conducts inspections of completed construction ▪ Requires property owner to submit an elevation/floodproofing certificate once construction is complete ▪ Reviews all development permit applications to determine whether permit requirements of the floodplain management ordinance have been satisfied, whether all other required state and Federal permits have been obtained, and whether the site is reasonably safe from flooding ▪ Issues stop-work orders or other violation notices when non-compliant construction activities occur ▪ Participates in IPRs led by the Planning Department for parcels and buildings located in flood hazard areas ▪ Provides the City Administrator's Office with summary reports regarding variances, elevation/floodproofing certificates, and permits issued
DEM	<ul style="list-style-type: none"> ▪ Incorporates flood risk and floodplain management information into the CCSF Hazard Mitigation Plan ▪ Pursues Federal hazard mitigation grants related to flood loss reduction
DPW County Surveyor	<ul style="list-style-type: none"> ▪ Maintains the CCSF Interim Floodplain Map, FIRM (after FEMA publishes FIRM for San Francisco), and revisions to FIRM ▪ Determines whether parcels and buildings are located in identified flood hazard areas ▪ Determines BFEs for parcels and buildings located in identified flood hazard areas ▪ Responds to public inquiries regarding floodplain determinations ▪ Participates in IPRs led by the Planning Department for parcels and buildings located in flood hazard areas ▪ Coordinates with the City Administrator's Office for map revision requests and all communications with FEMA regarding the NFIP ▪ Prepares or oversees preparation of elevation/floodproofing certificates for individual parcels and larger development projects
DPW Sewer Information System Manager	<ul style="list-style-type: none"> ▪ Downloads assessor-recorder data and distributes the data to DPW, DBI, the Planning Department, and SFRA
OEWD	<ul style="list-style-type: none"> ▪ Oversees infrastructure improvements designed to eliminate flood hazards on Treasure Island and for other OEWD-managed developments ▪ Provides the City Administrator's Office with summary reports regarding variances, elevation/floodproofing certificates, and permits issued for OEWD/TIDA projects
Planning Department	<ul style="list-style-type: none"> ▪ Ensures that new construction, substantial improvements involving horizontal or vertical additions, and substantial repairs involving the exterior of historic structures comply with land use and environmental regulations. This responsibility also applies to buildings located in the following SFRA project areas: South of Market and the Zone 2 areas of Bayview-Hunters Point (non-Candlestick Point portion), Transbay, and Visitacion Valley

Table 1: Roles of City and County of San Francisco Agencies/Departments

Agency/Department	Role
	<ul style="list-style-type: none"> ▪ Ensures that compliance with floodplain ordinance requirements also meet Planning Code objectives for the character and stability of neighborhoods ▪ Tracks parcels located in identified flood hazard areas using the Planning Information Database ▪ Conducts IPRs in collaboration with DBI, DPW, and SFFD for projects located in identified flood hazard areas ▪ Flags projects located in identified flood hazard areas during review of Conditional Use Authorization applications ▪ Provides the City Administrator's Office with summary reports regarding variances, elevation/floodproofing certificates, and permits issued ▪ Maintains the Property Information Map⁹
Port	<ul style="list-style-type: none"> ▪ Coordinates with the City Administrator's Office for map revision requests and all communications with FEMA regarding the NFIP ▪ Ensures that designs for new construction and substantial improvements/repairs on Port property (including projects proposed by lessees) comply with floodplain management ordinance ▪ Issues permits for new construction and substantial improvements/repairs on Port property (including projects proposed by lessees) ▪ Conducts inspections of completed construction ▪ Issues elevation/floodproofing certificate once construction is complete ▪ Reviews all development permit applications to determine whether permit requirements of the floodplain management ordinance have been satisfied, ensures all other required state and Federal permits have been obtained, and determines whether the site is reasonably safe from flooding ▪ Develops and maintains flood elevations for the waterfront area per Sections 1612.3 and 1612.6 of the current Port of San Francisco Building Code. Until FEMA issues an effective FIRM with BFEs for CCSF, the Port's flood elevations should be used for floodplain management purposes ▪ Issues stop-work orders or other violation notices when non-compliant construction activities occur ▪ Provides the City Administrator's Office with summary reports regarding variances, elevation/floodproofing certificates, and permits issued for Port projects
Airport	<ul style="list-style-type: none"> ▪ Coordinates with the City Administrator's Office for map revision requests, and all communications with FEMA regarding the NFIP ▪ Ensures that new construction and substantial improvements/repairs on Airport property (including projects proposed by lessees) comply with the floodplain management ordinance ▪ Ensures that new construction and substantial improvements/repairs on Airport property (including projects proposed by lessees) comply with the floodplain management ordinance ▪ Provides the City Administrator's Office with summary reports regarding variances, elevation/floodproofing certificates, and permits issued for Airport projects

⁹ Available at <http://propertymap.sfplanning.org/>.

Table 1: Roles of City and County of San Francisco Agencies/Departments

Agency/Department	Role
SFPUC	<ul style="list-style-type: none"> ▪ Coordinates with the City Administrator's Office for map revision requests and all communications with FEMA regarding the NFIP ▪ Determines whether proposed improvements to SFPUC facilities outside San Francisco are located in identified flood hazard areas, as shown on the FIRMs for communities in which facilities are located ▪ Ensures that designs for new construction and substantial improvements/repairs of SFPUC projects comply with floodplain management ordinance ▪ Provides the City Administrator's Office with summary reports regarding variances, elevation/floodproofing certificates, and permits issued for SFPUC projects
SFRA	<ul style="list-style-type: none"> ▪ Ensures that the initial designs for new construction and substantial improvements/repairs within the following SFRA project areas comply with the floodplain management ordinance: Hunters Point Shipyard Phases 1 and 2; Mission Bay (North and South); Rincon Point-South Beach; and the Zone 1 areas of Bayview-Hunters Point (Candlestick Point area), Transbay and Visitacion Valley ▪ Provides the City Administrator's Office with summary reports regarding variances, elevation/floodproofing certificates, and permits issued for SFRA projects

Notes:

Airport = San Francisco International Airport

BFE = Base (1-percent annual chance) Flood Elevation

CCSF = City and County of San Francisco

DBI = Department of Building Inspection

DEM = Department of Emergency Management

DPW = Department of Public Works

FEMA = Federal Emergency Management Agency

FIRM = Flood Insurance Rate Map

IPR = Interdepartmental Project Review

NFIP = National Flood Insurance Program

OEWD = Office of Economic and Workforce Development

SFFD = San Francisco Fire Department

SFPUC = San Francisco Public Utilities Commission

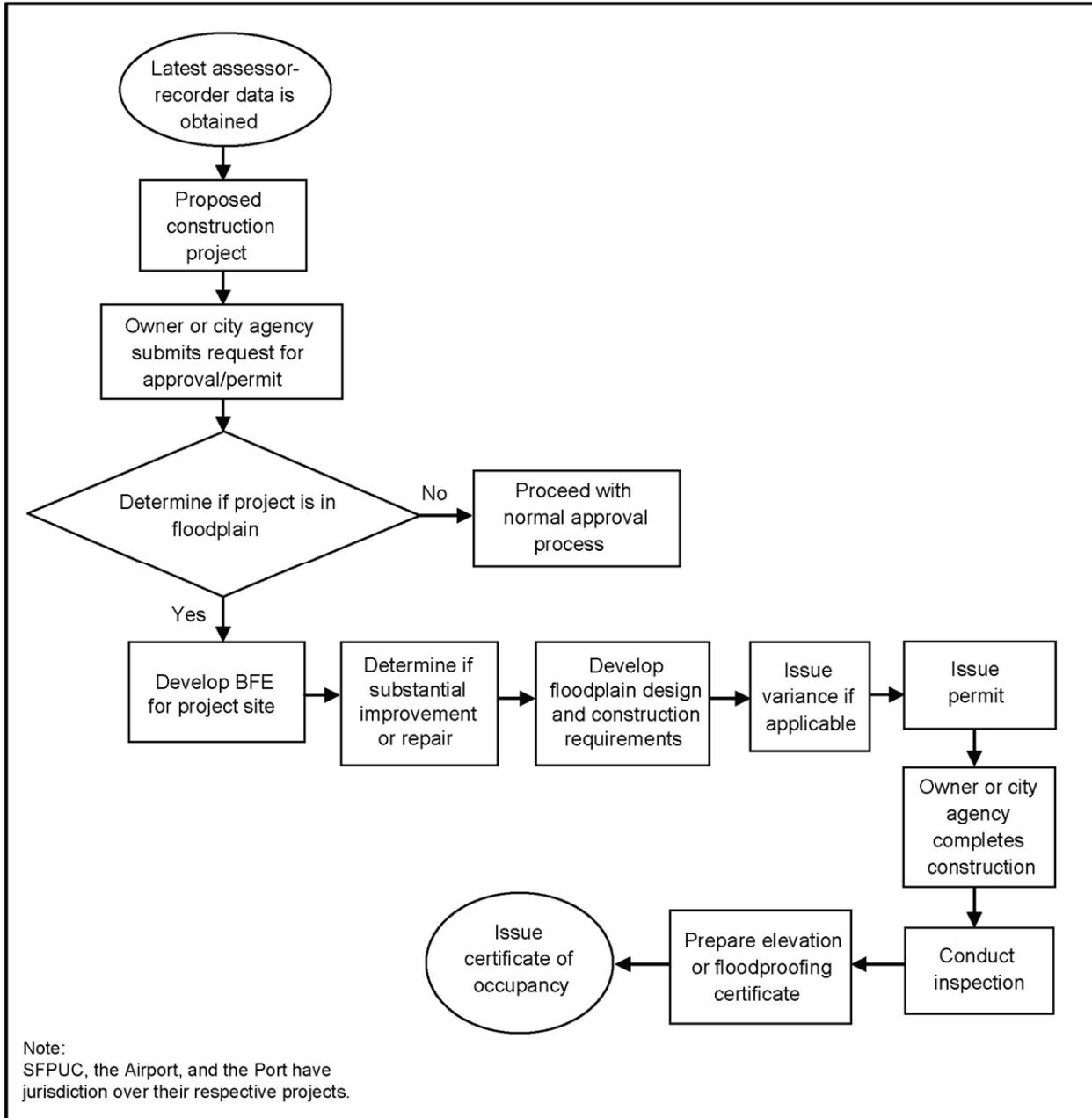
SFRA = San Francisco Redevelopment Agency

TIDA = Treasure Island Redevelopment Agency

6. General Process

CCSF implements the floodplain management ordinance through its existing processes for review and approval of development and construction projects. In general, the process follows the steps outlined in **Figure 1**.

Figure 1: General Process for Ordinance Implementation



These steps are described in greater detail below. However, the compliance process varies depending on the type of project and the CCSF agency/department with jurisdiction for the project in question. These variations are described in more detail in Section 7 below.

The compliance process applies to the following:

- All building types, including residential, commercial, institutional, industrial, and public-sector buildings
- Construction of new buildings
- Substantial improvements or repairs of substantial damage to existing buildings¹⁰
- Construction of new complexes or subdivisions.

The compliance process does not apply to buildings over which CCSF does not have jurisdiction, such as buildings owned by the State of California and the Federal government.

6.1 Assessor-Recorder Data

The DPW Sewer Information Manager obtains the assessor-recorder data from the Bureau of Street Use and Mapping, and distributes the information to DPW, DBI, the Planning Department, and SFRA on an as-needed basis. These data, which are downloaded weekly by the Bureau of Street Use and Mapping, are used to determine location and parcel information relevant for floodplain determinations.

6.2 Propose Construction Project

The owner or CCSF agency/department develops the concept and initial design for a proposed construction project.

6.3 Submission of Request for Approval/Permit

After the proposed construction project is developed, the owner or CCSF agency/department responsible for the project submits a request for approval/permit to the appropriate authority. DBI is responsible for requests for approval and permits for new construction and substantial improvements and repairs. This pertains to individual buildings and complexes and to OEWD, SFRA, and TIDA projects as appropriate. SFPUC, the Airport, and the Port have their own authorities and jurisdiction over their respective projects.

6.4 Floodplain and BFE Determination

Once the request for approval/permit is received, the reviewing agency/department must determine whether the project is located in or near a flood hazard area. This can be accomplished by comparing the project location with the CCSF Interim Floodplain Map (or the effective FIRM, once FEMA publishes it). The City Administrator's Office, in cooperation with the County Surveyor, will maintain the CCSF's floodplain maps, and periodically update the maps with the latest assessor-recorder data.

¹⁰ As described in Section 6.5 below, an improvement or damage repair is defined as "substantial" if the cost of the improvements or the cost to repair the damage exceeds 50 percent of the market value of the structure.

Owners and renters of residential and non-residential property in San Francisco may inquire as to whether their parcel is located within an identified flood hazard area. All such inquiries are directed to the County Surveyor. The County Surveyor:

- Compares the parcel location with the CCSF Interim Floodplain Map
- Determines whether the parcel is located in an identified flood hazard area
- Issues a determination letter to the property owner regarding the determination. If any part of the parcel is located in the flood hazard area, the letter states that the property is flood-prone. An example letter is included in Appendix F.

This determination is valid only for purposes of providing the property owner with information. Once FEMA publishes an effective FIRM for San Francisco, lenders will require property owners in identified SFHAs to purchase flood insurance, as described in Section 2 above.

If the project is not located in a flood hazard area, the project may proceed with the normal approval/permit process. If the project is located in a flood hazard area, the reviewing agency/department must use published BFEs as shown on the appropriate FIRM maps, or develop a BFE for the site in cooperation with the DPW if the project is within CCSF limits (with the exception of Port, SFPUC, and Airport projects). The Port has developed BFE values for waterfront areas, as indicated in the Port of San Francisco Building Code. These values should be used for Port projects until an effective FIRM for CCSF is issued by FEMA.

Table 2 on the following page shows responsible agencies/departments, sources of floodplain determination data, and sources of BFE data.

6.5 Substantial Improvement and Substantial Repair Determinations

FEMA defines “substantial improvement” as any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the start of construction of the improvement. All building improvement projects worthy of a permit must be considered. These include remodeling projects, rehabilitation projects, building additions, and repair and reconstruction projects.

The term does not include:

- Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications that have been identified by the local code enforcement official, and which are the minimum necessary to assure safe living conditions
- Any alterations to a historic structure,¹¹ provided that the alteration will not preclude the structure's continued designation as a historic structure.

¹¹ The floodplain management ordinance defines types of structures that are considered historic. Refer to Appendix A for details.

Table 2: Floodplain and Base Flood Elevation Determinations¹²

Type of Project	Responsible CCSF Agency/Department	Source of Floodplain Determination	Source of BFE Data
Projects at the Airport, including projects completed by lessees	Airport	San Mateo County FIRM	Airport prepares BFE
New building or substantial improvement/repair	County Surveyor	CCSF Interim Floodplain Map	DPW works with project sponsor to prepare BFE
New development greater than 50 lots or 5 acres ¹³	County Surveyor	CCSF Interim Floodplain Map	Developer prepares BFE with help of DPW
Projects on Port property	Port	CCSF Interim Floodplain Map	Section 1612.3 and Section 1612.6 of current Port of San Francisco Building Code
Redevelopment projects in Hunters Point Shipyard Phase 1 and 2; Mission Bay (North and South); Rincon Point-South Beach; and the Zone 1 areas of Bayview-Hunters Point (Candlestick Point area), Transbay, and Visitacion Valley	SFRA	CCSF Interim Floodplain Map	Developer prepares BFE with help of the County Surveyor
Projects implemented by SFPUC	SFPUC	FIRM for the community in which project is located or CCSF Interim Floodplain Map	FIRM for the community in which project is located or SFPUC prepares BFE if project is within CCSF
Treasure Island projects	OEWD/TIDA	CCSF Interim Floodplain Map	Developer prepares BFE with help of DPW

Notes:

Airport = San Francisco International Airport

BFE = Base (1-percent-annual-chance) Flood Elevation

CCSF = City and County of San Francisco

DPW = Department of Public Works

FIRM = Flood Insurance Rate Map

OEWD = Office of Economic and Workforce Development

SFRA = San Francisco Redevelopment Agency

TIDA = Treasure Island Redevelopment Agency

¹² Sources of information for floodplain determinations and BFEs are based on the fact that FEMA has not yet published an effective FIRM for CCSF. Once FEMA publishes an effective FIRM for CCSF, the flood hazard data on that map, including published BFEs, must be used for floodplain management purposes, unless CCSF chooses to use more restrictive data.

¹³ Excluding projects that are the responsibility of OEWD, SFRA, and TIDA.

FEMA defines “substantial damage” as damage of any origin sustained by a structure where the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred. The damage can be from any cause and applies to all buildings in a flood hazard area, regardless of whether the building was covered by flood insurance. The cost to repair the structure must be calculated for full repair to the building’s before-damage condition, even if the owner elects to do less. Additionally, cumulative improvements over time may trigger a determination of substantial improvement.

FEMA allows individual communities to establish procedures for substantial improvement/repair calculations. However, the community must ensure that these calculations are performed using a consistent methodology. In any case, the market value pertains only to the structure in question, not to the land, landscaping, or detached accessory structures on the property. CCSF will develop procedures for substantial improvement and substantial damage determinations.

6.6 Floodplain Design and Construction Requirements

For a project located in an identified flood hazard area, the agency/department with jurisdiction for the project in question is responsible for identifying appropriate design requirements for compliance with the floodplain management ordinance.

Design requirements are referenced in the San Francisco Building Code, based on the current California Building Code. The California Building Code incorporates American Society of Civil Engineers 24, *Flood Resistant Design and Construction*, by reference. All CCSF agencies and departments must use this standard for ensuring that designs comply with the floodplain management ordinance.

All Port projects must also comply with the current Port of San Francisco Building Code.

6.7 Variances

The floodplain management ordinance provides for variances from the standards of the ordinance in situations where the physical characteristics of the property in question are so unusual that complying with the requirements of this ordinance would create an exceptional hardship to the applicant or the surrounding property owners. The physical characteristics must be unique to that property, and not shared by adjacent parcels. In addition, the characteristics must pertain to the land, not to any structure, its inhabitants, or the property owners. While the NFIP regulations allow for variances, FEMA discourages the practice on all but exceptional situations.

CCSF may make variance determinations if the property owner can demonstrate that:

- Failure to grant the variance would result in exceptional hardship
- Granting of the variance would not result in increased flood heights, additional threats to public safety, or extraordinary public expense; create a nuisance, cause fraud, and victimization of the public; or conflict with other existing CCSF laws or ordinances.

CCSF may issue variances for:

- Substantial improvement/repair to a historic structure,¹⁴ if it is determined that the proposed repair, rehabilitation, or addition is the minimum necessary to preserve the historic character and design of the structure, and will not preclude the structure's continued designation as a historic structure
- New construction or substantial improvement/repair required for a functionally dependent use,¹⁵ provided that the structure is protected by methods that minimize flood damage, issuance of the variance does not result in additional threats to public safety or create a public nuisance, and issuance of the variance will be the minimum necessary to provide relief.

The agency/department with jurisdiction for the project in question is responsible for determining whether a variance should be granted. The agency/department should coordinate this determination with the City Administrator's Office, and provide documentation to the City Administrator's Office for recordkeeping.

6.8 Permitting

The appropriate authority shall review the project application for floodplain design and construction requirements, and compliance with the floodplain ordinance. If the proposed project is in compliance with the ordinance, a permit is issued by the appropriate authority. The permit becomes the official authorization from the community allowing the applicant to proceed, based on the information submitted in the application package. If the proposed project is not in compliance with the ordinance, the permit is denied. It is the responsibility of the applicant to redesign the project to bring it into compliance with the ordinance.

The responsible agency/department must submit a summary report of permits issued to the City Administrator's Office for record-keeping every 6 months, in January and July.

6.9 Inspections

After a permit is issued and the owner or CCSF agency proceeds with construction, the appropriate agency/department will inspect the project site to ensure compliance with floodplain design and construction requirements. Inspections should determine if the site identified on the proposed plans is consistent with actual ground conditions and confirm the correct building floor elevations.

6.10 Elevation and Floodproofing Certificates

The NFIP regulations require documentation that new or substantially improved or repaired buildings within identified flood hazard areas have been constructed in compliance with the floodplain management ordinance. This documentation must include the surveyed elevation of

¹⁴ The floodplain management ordinance defines types of structures that are considered historic. Refer to Appendix A for details.

¹⁵ The floodplain management ordinance defines a "functionally dependent use" as a use that cannot perform its intended purpose unless it is located or carried out in close proximity to water. Refer to Appendix A for details.