

2019 Port of San Francisco Building Code

**PORT CODE
PROCEDURE**

NO. PCP-022**DATE** : March 23, 2021**SUBJECT** : Floodplain Management**TITLE** : **Properties Subject to the Floodplain Management Ordinance****PURPOSE** : The purpose of this Information Sheet is to clarify the permit process for projects subject to the Floodplain Management Ordinance (FMO).

REFERENCE : San Francisco Building Code Section 1612
 ASCE 7, Chapter 5
 ASCE 24
 FEMA Flood Insurance Rate Map (FIRM): effective date March 23, 2021
 Ordinance No. 188-08: Floodplain Management and Flood Insurance Requirements
 Ordinance No. 226-20: Ordinance Updating Floodplain Management and Flood Insurance Requirements

DISCUSSION :**A. Projects Subject to the Floodplain Management Ordinance:**

Projects are subject to the requirements of this ordinance if:

1. Any portion of the property lies within a Special Flood Hazard Area (SFHA) shown on the Flood Insurance Rate Map (FIRM), released by the Federal Emergency Management Agency (FEMA), effective date March 23, 2021; and
2. Proposed construction involves the following: (1) construction of a new structure, defined in the FMO as “a walled and roofed building that is principally above ground”; (2) “substantial improvement or repair” to the existing structure, meaning the cost of the project is 50% or more than the market value of the existing structure.

B. Additional Code Requirements for Projects:

All new construction of structures and portions of structures, including substantial improvement and restoration of substantial damage to structures in the SFHA shall be designed and constructed in accordance with the requirements of the 2019 Port of San Francisco Building Code Section 1612, ASCE 24, and ASCE 7, Chapter 5.

Determining Substantial Improvement and Repairs

A project shall be considered a substantial improvement or repair if the project cost is 50% or more of the market value of the existing structure.

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Value of Existing Structure

Permit Applicants who are attempting to determine the value of a structure before submittal of their permit application may use (1) the value of the building as assessed by the San Francisco Assessor-Recorder (<https://www.sfassessor.org/property-information/homeowners/property-search-tool>) or (2) a determination by an appraiser licensed by the State of California. The appraisal must have been made within one (1) year of the permit application.

Cost of the Project

The cost of projects completed within the previous 24-month period before submittal of a building permit application shall be included in the cost of the current project. In other words, project phasing shall not be used as a means to avoid compliance with the FMO. The applicant shall list all permits completed within that period on the attached screening form.

Exemptions and Variances

A variance from the Substantial Improvement or Repair requirements of the FMO shall be granted in the following circumstances:

1. The project involves the repair, rehabilitation, addition of an exterior addition to a historic building (as defined in the FMO).
2. Any project for improvement of a structure to correct existing violations or state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions.
3. The new construction, substantial improvement, or other proposed new development is necessary for the conduct of a functionally dependent use (as defined in the FMO); a boat launch, for example.

A variance from the Substantial Improvement or Repair requirements of the FMO **may** be granted in the following circumstances:

1. Failure to grant the variance would result in exceptional hardship to the applicant; and
2. The granting of a variance will 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 existing local laws or ordinances.

C. Permit Submittal and FMO Checklist:**GENERAL REQUIREMENTS:**

The Port requires the Flood Hazard Protection Checklist be completed and submitted with all building permit applications for new construction or alteration projects located in the SFHA.

The following general requirements apply to ALL New Construction or Substantial Improvements or Repairs of structures in SFHAs:

- a) The Port requires all New Construction and Substantial Improvements/ Repairs of structures in SFHAs to meet the Design Flood Elevation (DFE), hereby defined as the Base Flood Elevation (BFE) shown on the FIRM plus minimum freeboard (see tables in supplemental attachments). Please note that this elevation is stipulated in ASCE 24 (Flood

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Resistant Design and Construction), which is incorporated into the building code; and is more stringent than criteria outlined in minimum National Flood Insurance Program standards. Generally, this means that:

- a. The lowest floor of the structure must be elevated to or above the DFE.
 - b. Attendant utilities such as water, sewer, gas and electrical systems must be elevated or constructed to minimize or eliminate flood damage.
 - c. The project should be designed and anchored to prevent flotation, collapse, or lateral movement of the building/structure resulting from hydrodynamic and hydrostatic loads, and
 - d. The project should incorporate flood resistant materials below the DFE.
- b) The Port requires an Elevation Certificate to be submitted for all proposed Substantial Improvements/ Repairs to existing structures in SFHAs. An existing elevation certificate is not mandatory for new construction but site elevations should be shown clearly on the topographic survey. A post-construction Elevation Certificate will be required prior to final inspection for new construction and substantial improvements to existing structures in SFHAs.
- c) The title sheet of the plans shall show the Flood Zone designation, Base Flood Elevation (BFE), and Design Flood Elevation (DFE).
- d) The title sheet of the plans shall contain the following flood notes:
- a. "The project is built in compliance with San Francisco's Flood Management Ordinance, (Sec, 2A.280 -2A.285) of the San Francisco Administrative Code"
 - b. "All materials below DFE shall be resistant to flood damage."
 - c. "The bottom elevation of all appliances and utilities (meters, air conditioning units, etc) serving residential uses shall be at or above DFE".
 - d. "No basements or any habitable enclosure below the DFE are allowed for projects in the flood zone."
- e) The title sheet must include the following statement of compliance to the Port of San Francisco Building Permit Group: "I certify that I am the engineer (or architect) of record and the plans dated _____, comply with the City's Floodplain Management Ordinance." Signature and Stamp
- f) The following elevations must be shown on the plans:
- a. Finished Floor Elevation (FFE), BFE, DFE
 - b. Bottom of PG&E gas meter, AC unit, or other appliances serving the building, if any. No utilities (e.g. gas, meters, AC units, electrical conduits) are permitted below the DFE, except in circumstances where dry flood proofing is permitted (see below). Water and sewer pipes, sealed to prevent flood water intrusion, are allowed.
 - c. Highest and lowest adjacent grade within 2 feet from the structure

D. Alternative Methods of Compliance

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Below are descriptions of and requirements for Wet and Dry Floodproofing, which are methods of compliance that can be used instead of -or in conjunction with- building elevation in specific circumstances.

a) Dry Floodproofing

Dry Floodproofing is defined as any combination of measures that results in a structure, including the attendant utilities and equipment, being watertight with all elements substantially impermeable and able to withstand flood loads.

i. Applicability:

1. Dry Floodproofing is ONLY applicable for:

- a. Existing non-residential structure undergoing alteration or repair
- b. Non-residential portions of existing mixed-use structures (as defined by ASCE 24) undergoing alteration or repair
- c. Any new OR existing commercial garage structure (per FEMA Technical Bulletin 3)

2. Dry Floodproofing is NOT ALLOWED for

- a. High Hazard Areas (Zone V) or Coastal A Zones as defined by FEMA
- b. In the City and County of San Francisco, this would include all A Zones, except for Zone AO.
- c. Residential projects (both new construction and substantial improvements)

ii. Requirements

1. Dry Floodproofing methods and materials shall meet the requirements of ASCE 24.
2. All doorways critical to emergency ingress and egress must be elevated to or above the DFE to prevent the intrusion of floodwater into the building.
3. If Dry Floodproofing is selected as the compliance option, then the following documents will be required prior to issuance of the building permit:
 - a. A floodproofing certificate must be completed by a licensed professional. A copy of the document is found on Appendix C for reference.
 - b. All Dry Floodproofing measures must be clearly shown on the submitted plans and labeled.
 - c. Should the applicant elect to implement Dry Floodproofing measures requiring human intervention (i.e. manual flood gates), a Flood Emergency Operation Plan, as described in ASCE 24 Section 6.2.3, must be provided.

b) Wet Floodproofing

Wet Floodproofing is defined as permanent or contingent measures applied to a structure and/or its contents that prevent or provide resistance to damage from flooding by allowing water to enter the structure.

i. Applicability:

Wet Floodproofing is ONLY applicable for:

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1. Flood Design Class 1 Structures, as defined by ASCE 24 (see Supplemental Attachment A)
 2. Enclosures used solely for parking of vehicles, building access, or storage.
 3. Structures that are functionally dependent on close proximity to water.
- ii. Requirements
Wet Floodproofing shall conform to the requirements of ASCE 24, Chapter 6.

Rod Iwashita	Date
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Port of San Francisco	

Attachment A: Flood Hazard Zone Protection Checklist
Attachment B: FEMA Elevation Certificate
Attachment C: FEMA Flooding Certificate
Supplemental Attachment A: Minimum Elevation Table
Supplemental Attachment B: ASCE Flood Design Class Table