



APPENDIX H

FLOOD INFORMATION

APPENDIX H HEALTH AND SAFETY CHAPTER

Information Purposes, this Appendix incorporates the City's Floodplain Management Regulations in effect as of April 2009 as well as additional current flood information:

- Title 17, Chapter 38 Flood Plain Management Ordinance
- Preliminary Salvador Creek Flood Boundaries
- Example of FEMA Flood Insurance Rate Maps available for review at City of Napa Public Works Department
- FEMA Repetitive Loss Properties Map (2007)

Chapter 17.38
:FP - FLOODPLAIN MANAGEMENT OVERLAY DISTRICT

Sections:

- 17.38.010 Background and Purpose.**
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17.38.010 Background and Purpose.

- A. The special flood hazard areas of the City of Napa are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare. Uses that are inadequately elevated, flood proofed, or protected from flood damage contribute to flood losses. The cumulative effect of obstructions in the special flood hazard area which increase flood heights and velocities also contribute to the flood loss.
- B. It is the purpose of this chapter to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions to:
 - 1. Protect human life and health;
 - 2. Minimize expenditure of public money for costly flood control projects;
 - 3. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
 - 4. Minimize prolonged business interruptions;
 - 5. Minimize damage to public facilities and utilities such as water and gas mains; electric, telephone and sewer lines; and streets and bridges located in areas of special flood hazard;
 - 6. Help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future blighted areas caused by flood damage;
 - 7. Ensure that potential buyers are notified that property is in an area of special flood hazard;
 - 8. Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions;
 - 9. Implement the regulations of the National Flood Insurance Program and Related Regulations (as outlined in Part 44 of the Code of Federal Regulations) and administered by the Federal Emergency Management Agency (FEMA); and
 - 10. Implement the policies of the health and safety element of the General Plan regarding flood hazards with the Napa River and its tributaries.
- C. In order to accomplish its purposes, this chapter includes methods and provisions to:
 - 1. Restrict or prohibit uses which are dangerous to health, safety, and property due to water hazards, or result in damaging increases in flood heights or velocities;
 - 2. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
 - 3. Control the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;
 - 4. Control filling, grading, dredging, and other development which may increase flood damage; and
 - 5. Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas.

- D. The degree of flood protection required by these regulations is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods will occur on rare occasions. Flood heights may be increased by manmade or natural causes. These regulations do not imply that land outside the areas of special flood hazard, or uses permitted within such areas will be free from flooding or flood damages. These regulations shall not create liability on the part of the city, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on these regulations, or any administrative decision lawfully made there under. (Ord. O2003 12)

17.38.020 General Provisions.

- A. It is the intent that this chapter shall apply to all special flood hazard areas within the jurisdiction of the city of Napa. These special flood hazard areas are identified by the Federal Insurance Administration (FIA) of the Federal Emergency Management Agency (FEMA) in the Flood Insurance Study (FIS) dated March 1988 and accompanying Flood Insurance Rate Maps (FIRMs) and Flood Boundary and Floodway Maps (FBFMs) dated March 1988, and all subsequent amendments and/or revisions thereto, are hereby adopted and incorporated by reference into this chapter. This FIS and attendant mapping is the minimum area of applicability of this chapter and may be supplemented by studies for other areas which allow implementation of this chapter and which are recommended to the City Council by the floodplain administrator. The FIS, FIRMs and FBFMs are on file at the Department of Public Works, 1600 First Street, Napa, California. The provisions of this chapter shall apply to those lots shown on the zoning map (along with the zoning district with which they are combined) with an "FP" suffix.
- B. No development project may hereinafter be undertaken without full compliance with the terms of this chapter and any term, condition, mitigation measure or project description incorporated into any permit or other entitlement granted. Violation of any permit term, condition mitigation measure, project description or applicant misrepresentation shall be unlawful, prohibited and a violation of this Title.
- C. This chapter is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions.
- D. Where this chapter and another law, regulation or ordinance conflict or overlap, whichever imposes the more stringent restrictions shall prevail. (Ord. O2003 12)

17.38.030 Definitions.

Unless specifically defined below, words or phrases used in this chapter shall be interpreted so as to give them the meaning they have in common usage and to give the chapter its most reasonable application. The specific definitions below are intended for use only in conjunction with the regulations contained herein.

"Area of special flood hazard" "See "Special flood hazard areas".

"Base flood" means a flood that has a one percent chance of being equaled or exceeded in any given year (also known as the "100-year flood").

"Basement" means any area of the building having its floor subgrade (below ground level) on all sides.

"Building" means any structure intended for any use or occupancy with substantial walls and roof. Building includes "manufactured home."

"Development" means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations. It includes the construction or placement of new buildings and structures or substantial improvement of existing buildings and structures but does not normally include maintenance, painting and minor repairs. Development also includes a change of use which requires a use permit under this Title, approval of a tentative subdivision map or parcel map and establishment of a manufactured home or mobile home park. Development also includes the storage of equipment and materials where such storage may increase the base flood elevation result in water damage to the stored equipment or materials or result in the equipment or material becoming water borne debris.

"Development project" means any project undertaken for the purpose of development.

"Encroachment" means the advance or infringement of uses, plant growth, fill, excavation, buildings, permanent structures or development into a floodplain that may impede or alter the flow capacity of a floodplain.

"Existing manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets and either final site grading (or the pouring of concrete pads) was completed before March 1988.

“Expansion to an existing manufactured home park or subdivision” means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).
“Flood, flooding or flood water” means a general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters or the unusual and rapid accumulation of runoff of surface waters from any source.

“Flood Boundary and Floodway Map (FBFM)” means the official map on which the Federal Emergency Management Agency (FEMA) or Federal Insurance Administration (FIA) has delineated both the special flood hazard area and the floodway.

“Flood Insurance Rate Map (FIRM)” means the official map on which FEMA or FIA has delineated both the special flood hazard area and the risk premium zones applicable to the community.

“Flood Insurance Study” means the official report provided by the FIA that includes flood profiles, the FIRM, the FBFM, and the water surface elevation of the base flood.

“Floodplain or flood-prone area” means any land area susceptible to being inundated by water from any source - see “Flooding.”

“Floodplain administrator” is the Director of Public Works.

“Floodplain management” means the operation of an overall program of corrective and preventive measures for reducing flood damage and preserving and enhancing where possible, natural resources in the floodplain, including but not limited to emergency preparedness plans, flood control works, floodplain management regulations, and open space plans.

“Floodplain management regulations” means this chapter and other zoning chapters, subdivision regulations, building codes, health regulations, special purpose chapters (such as grading and erosion control) and other application of police power which control development in flood-prone areas. This term describes federal, state or local regulations in any combination thereof which provide standards for preventing and reducing flood loss and damage.

“Floodproofing” means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents. (Applicable to “Floodplain management regulations” only.)

“Floodway” means the channel of a river or other water course and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot. Also referred to as “Regulatory floodway.”

“Floodway fringe” is that area of the floodplain on either side of the “Regulatory floodway” where encroachment may be permitted.

“Functionally dependent use” means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, and does not include long-term storage or related manufacturing facilities.

“Hardship” as related to section 17.38.100 of this chapter means the exceptional hardship that would result from a failure to grant the requested variance. The City Council requires that the variance be exceptional, unusual, and peculiar to the property involved. Mere economic or financial hardship alone is not exceptional.

Inconvenience, physical problems, aesthetic considerations, personal preferences, or the disapproval of one’s neighbors likewise cannot, as a rule, qualify as an exceptional hardship. All of these problems can be resolved through other means without granting a variance, even if they are more expensive, or require the property owner to build elsewhere or put the parcel to a different use than originally intended.

“Highest adjacent grade” means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

“Historic structure” means any structure that is:

- A. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- B. Certified or preliminarily determined by the Secretary of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- C. Individually listed on the State of California inventory of historic places; or
- D. Individually listed as a city of Napa landmark on the local inventory of historic places.

"Levee" means a man-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control or divert the flow of water so as to provide protection from temporary flooding.

"Levee system" means a flood protection system that consists of a levee, or levees, and associated structures, such as closure and drainage devices, which are constructed and operated in accord with sound engineering practices.

"Lowest floor" means the lowest floor of the lowest enclosed area including basement (see basement definition).

- A. An unfinished or flood resistant enclosure below the lowest floor that is useable solely for parking of vehicles, building access or storage in an area other than a basement areas, is not considered a building's lowest floor provided it conforms to applicable non-elevation design requirements including but not limited to:
 1. The wet floodproofing standards in section 17.38.060 of this chapter.
 2. The anchoring standards in section 17.38.060 of this chapter.
 3. The construction materials and methods standards in section 17.38.060 of this chapter.
 4. The standards for utilities in section 17.38.080 of this chapter.
- B. For residential structures, all subgrade enclosed areas are prohibited as they are considered to be basements (see "Basement" definition). This prohibition includes below-grade garages and storage areas.

"Manufactured home" means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include a "recreational vehicle".

"Manufactured home park or subdivision" means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

"Mean sea level" means for purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on a community's Flood Insurance Rate Map are referenced.

"New construction", for floodplain management purposes, means structures for which the "start of construction" commenced on or after March 1988 and includes any subsequent improvements to such structures.

"New manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) was completed on or after March 1988.

"Obstruction" includes, but is not limited to, any dam, wall, wharf, embankment, levee, dike, pile, abutment, protection, excavation, channelization, bridge, conduit, culvert, building, wire, fence, rock, gravel, refuse, fill, structure, vegetation or other material in, along, across or projecting into any watercourse which may alter, impede, retard or change the direction and/or velocity of the flow of water, or due to its location, its propensity to snare or collect debris carried by the flow of water, or its likelihood of being carried downstream.

"One-hundred-year flood" or "100-year flood" - see "Base flood."

"Recreational vehicle" means a vehicle which is:

- A. Built on a single chassis;
- B. 400 square feet or less when measured at the largest horizontal projection;
- C. Designed to be self-propelled or permanently towable by a light-duty truck (rated 2 tons or less); and
- D. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel or seasonal use.

"Regulatory floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

"Remedy a violation" means to bring the structure or other development into compliance with State or local floodplain management regulations, or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected development from flood damages, implementing the enforcement provisions of this chapter or otherwise deterring future similar violations, or reducing State or federal financial exposure with regard to the structure or other development.

"Riverine" means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

"Sheet flow area" - see "Area of shallow flooding".

“*Special flood hazard area (SFHA)*” means an area having special flood, mud slide (i.e., mud flow), or flood-related erosion hazards, and shown on an FHBM or FIRM as Zone A, AO, A1-A30, AE, A99, AH, E, M, V1-V30, VE or V. These areas are designated on city zoning maps with the: FP suffix.

“*Start of construction*” for new development other than the issuance of a use permit means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days from the date of the permit; for a use permit it shall be the effective date of approval of the use permit. The “actual start” for development other than a substantial improvement means either the first placement of permanent construction of a structure on a site, such as pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation such as clearing, grading, and filling; nor does it include the installation of streets and/or sidewalks; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not a part of the main structure. For a substantial improvement, the “actual start” of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

“*Structure*” means anything constructed or erected, except for fences, the use of which requires a permanent location on the ground or attached to something having a permanent location on the ground (Note: all buildings are structures, but not all structures are buildings.)

“*Storage*” means to place or leave in a location for preservation, later use or disposal.

“*Substantial damage*” means damage of any origin sustained by a structure whereby 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.

“*Substantial improvement*” means any reconstruction, alteration, rehabilitation, addition, or other proposed change of a structure, the cost of which equals or exceeds 50 percent of the market value of the existing structure before “start of construction” of the improvement; this term includes reconstruction, rehabilitation, addition or repair of a structure which has incurred “substantial damage”, regardless of the actual amount of work performed. The term “substantial improvement” does not however, include either:

- A. Any project for improvement of a structure to correct existing violations of 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, or
- B. Any alteration, rehabilitation, repair addition or other change of a “historic structure”, provided that the work performed will not preclude the structure’s continued designation as an “historic structure”.

“*Variance*” means a grant of relief from the requirements of this chapter which permits construction in a manner that would otherwise be prohibited by this chapter.

“*Violation*” means the failure of a structure or development project to be in full compliance with this chapter. A development project without the elevation certificate, other certifications, or other evidence of compliance required in this chapter is presumed to be in violation until such time as that documentation is provided.

“*Water surface elevation*” means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, (or other datum, where specified) of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

“*Watercourse*” means a lake, river, creek, stream, wash, arroyo, channel or other topographic feature on or over which flood waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

(Ord. O2003 12)

17.38.040 Floodplain administrator - Duties and Responsibilities.

The public works director of the city of Napa is hereby appointed floodplain administrator to administer, implement, and enforce this chapter and to grant or deny floodplain permits in accord with its provisions. Specific duties and responsibilities of the floodplain administrator shall include, but not be limited to the following:

- A. Review all applications for development within the floodplain to determine that:
 - 1. The permit requirements of this chapter have been satisfied;
 - 2. All other required state and federal permits have been obtained;
 - 3. The site is reasonably safe from flooding; and
 - 4. The proposed development does not adversely affect the carrying capacity of areas where base flood elevations have been determined but a floodway has not been

designated. For purposes of this chapter, "adversely affects" means that the cumulative effect of the proposed development when combined with all other existing and anticipated development will increase the water surface elevation of the base flood more than one foot at any point.

- B. When base flood elevation data have not been provided in accordance with section 17.38.020 of this chapter, obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal or state agency, or other source, in order to administer sections 17.38.050 through 17.38.100. Any such information shall be submitted to the City Council for its review and adoption.
- C. In the event of alteration or relocation of a watercourse:
 - 1. Notify adjacent communities and the California Department of Water Resources prior to alteration or relocation of a watercourse.
 - 2. Submit evidence of such notification to the Federal Insurance Administration, Federal Emergency Management Agency.
 - 3. Assure that the flood carrying capacity within the altered or relocated portion of said watercourse is maintained.
- D. Make interpretations where needed as to the exact location of the boundaries of the areas of special flood hazard, for example, where there appears to be a conflict between a mapped boundary and actual field conditions. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this section.
- E. Obtain and maintain for public inspection and make available as needed the following:
 - 1. Certification required by section 17.38.060 (lowest floor elevation).
 - 2. Certification required by section 17.38.060 (elevation of floodproofing of nonresidential structures).
 - 3. Certification required by section 17.38.060 (wet floodproofing standard).
 - 4. Certification of elevation required by section 17.38.060 (subdivision standards).
 - 5. Certification required by section 17.38.060 (floodway encroachments).
- F. Take action to remedy violations of this chapter as specified in section 17.38.020.

Any decision or determination made under this chapter by the floodplain administrator may be appealed to the City Council by filing a written appeal setting forth the reasons of the appeal accompanied by the appropriate fee with the city clerk not later than ten (10) calendar days following the date of action from which such appeal is being taken. If the tenth calendar day is a weekend or city holiday, the deadline is extended to the next working day of the city. The City Council shall consider the decision or determination de novo.

(Ord. O2003 12)

17.38.050 Floodplain Permit Required.

- A. No development project may be approved by the city of Napa nor undertaken by any person on property zoned: FP unless a floodplain permit is first obtained from the floodplain administrator.
- B. Application for a floodplain permit shall be made in a form acceptable to the floodplain administrator, shall provide an indemnification that is in the approved form and may include, but not be limited to: plans drawn to scale showing the nature, location, dimensions, and elevation of the area in question; existing or proposed structures, fill, storage of materials or equipment, drainage facilities; and the location of the forgoing. Specifically, the following information is required:
 - 1. Proposed elevation in relation to mean sea level, of the lowest floor (including basement) of all structures; or proposed elevation in relation to mean sea level to which any nonresidential structure will be floodproofed, if required in section 17.38.060.
 - 2. All appropriate certifications listed in section 17.38.060 of this chapter.
 - 3. Description of the extent to which any watercourse will be altered or relocated as a result of the proposed development.
 - 4. In the case of a tentative parcel or subdivision map, the application shall:
 - a. Identify the special flood hazard area and the elevation of the base flood on the tentative map;
 - b. Show how any existing or buildings, structures or utilities will comply with the development standards of this section;
 - c. Identify the elevation of any existing structures, buildings or proposed

- structure(s) and pad(s). If the site is filled above the base flood elevation, the lowest floor and pad elevations shall be certified by a registered professional engineer or surveyor and provided to the floodplain administrator;
- d. Show how construction will minimize flood damage;
 - e. Show how public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage; and
 - f. Identify all drainage necessary to reduce exposure to flood hazards.
(Ord. O2003 12)

17.38.060 Floodplain Management Regulations.

The following development standards shall be met on all lots zoned: FP:

- A. All new construction of structures shall be secured to a permanent foundation system to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
- B. All new construction and substantial improvement of structures shall be constructed and designed:
 - 1. With materials and utility equipment resistant to flood damage;
 - 2. Using methods and practices that minimize flood damage;
 - 3. With electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located as to prevent water from entering or accumulating within the components during conditions of flooding;
 - 4. With adequate drainage paths around structures on slopes to guide floodwaters around and away from structures; and
 - 5. In compliance with FEMA Technical Bulletins 2-93, 3-93 and 7-93.
- C. All new construction or substantial improvement of residential buildings, shall have the lowest floor, including basement (See section 17.38.030 definitions for "basement," "lowest floor," "new construction," "substantial damage" and "substantial improvement"), elevated to at least one foot above the base flood elevation as determined by this community and be designed so that fully enclosed areas below the lowest floor automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. The minimum criteria for equalizing hydrostatic forces include a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding with the bottom of such opening no higher than one foot above grade and equipped with screens, louvers, valves or other coverings or devices which permit the automatic entry and exit of floodwaters. Upon completion of the building, the elevation of the lowest floor including basement shall be certified by a registered professional engineer or surveyor, and verified by the community building inspector to be properly elevated. Such certification and verification shall be provided to the floodplain administrator.
- D. All new construction or substantial improvement of nonresidential buildings shall either be elevated to conform with this section or together with attendant utility and sanitary facilities:
 - 1. Be flood proofed below an elevation one foot above the base flood elevation so that the structure is watertight with walls substantially impermeable to the passage of water; (See FEMA Technical Bulletins 3-93 and 7-93 for additional requirements);
 - 2. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
 - 3. Be certified by a registered professional engineer or architect that the standards of this section are satisfied. Such certification shall be provided to the floodplain administrator.
- E. All new construction and substantial improvement of buildings with fully enclosed areas below the lowest floor (excluding basements) that are useable solely for parking of vehicles, building access or storage, and which are subject to flooding, shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwater. Designs for meeting this requirement must meet or exceed the following minimum criteria:
 - 1. Be certified by a registered professional engineer or architect; or
 - 2. Have a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped

with screens, louvers, valves or other coverings or devices provided that they permit the automatic entry and exit of floodwater.

- F. All new and replacement water supply, gas, electrical and sanitary sewage systems shall be designed:
 - 1. To minimize or eliminate infiltration of floodwaters into the system and discharge from the system into floodwaters; and
 - 2. To avoid impairment or contamination during flooding in the case of on-site waste disposal systems.
- G. All manufactured homes placed or substantially improved within the special flood hazard area and located:
 - 1. Outside a manufactured home park or subdivision, or
 - 2. In a new manufactured home park or subdivision, or
 - 3. In an expansion to an existing manufactured home park or subdivision, or
 - 4. In an existing manufactured home park or subdivision on a site upon which a manufactured home has incurred "substantial damage" as the result of a flood shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to a level one foot above the base flood elevation and be securely fastened to an adequately anchored foundation system to resist flotation, collapse and lateral movement.
- H. All recreational vehicles placed on lots zoned: FP shall either:
 - 1. Be on site for fewer than 180 consecutive days, and be fully licensed and ready for highway use. A recreational vehicle is ready for highway use only if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or
 - 2. Meet the permit requirements of section 17.38.050 of this chapter and the elevation and anchoring requirements for manufactured homes in section 17.38.060.
(Ord. O2003 12)

17.38.070 Additional Regulations for Certain Residential Development in Portions of the Floodplain (Flood Evacuation Area).

The following additional development standards shall be met in the Flood Evacuation portion of the :FP for residential developments which consist of five or more units, including subdivisions or mixed use projects with a residential development potential of five or more units. The flood evacuation area is established by the city public works department consistent with the Health and Safety Element of the General Plan.

Except as provided in subsection E of this section, a flood evacuation plan, prepared by a registered civil engineer or architect shall be required. Alternately, an approved hydraulic analysis, prepared by a registered civil engineer, may be substituted for a flood evacuation plan. A hydraulic analysis may also require an accompanying flood evacuation plan, depending on the location of the property.

The flood evacuation plan and/or hydraulic analysis shall be submitted to the public works director for review and approval. In determining the adequacy of flood evacuation plans, the public works director shall consider the existing and future street, drainage and flood control facilities that could affect the proposed development as well as the technical and economic feasibility of required flood evacuation procedures and/or improvements. In determining the adequacy of hydraulic analyses, the public works director shall consider the water surface elevation of the property and surrounding areas, flood control facilities that could affect the proposed development, and the location of the property in relationship to surrounding areas of inundation. The public works director shall determine if an accompanying flood evacuation plan demonstrating a safe evacuation route shall be submitted.

The minimum residential densities of the general plan shall not apply to residential developments of five or more units, including potential units which could result from the subdivision of property, when located on a property in the flood evacuation area.

- A. The flood evacuation plan shall include the following:
 - 1. The nature and extent of flooding and effect of such flooding on the occupants of the proposed development and the ability to safely evacuate the occupants from the premises in the event of a flood.

2. Measures needed to mitigate flood hazards and to assist the occupants of the proposed development to safely evacuate in the event of a flood.
 3. A plan as described in subsection B.
- B. The flood evacuation plan shall be drawn to scale, and shall be of sufficient size and clarity to show existing details and the nature and extent of all proposed improvements. The plan shall include the following information:
1. Name and address of owner;
 2. Name, address, professional status, license number, and phone number of the person who prepared the plan;
 3. Location and assessor's parcel number of the proposed site;
 4. North arrow, scale, and the name and location of the nearest public road intersection;
 5. Existing contours of the site, as well as finished contours to be achieved by grading. Contours shall be sufficiently detailed to define the topography over the entire site (generally at two-foot intervals);
 6. Location of and elevation of the streets in the area of the proposed development which would be used in the event of a flood evacuation;
 7. Location of any buildings, structures, trees and other landscape features on the property to remain, and the locations of any buildings, structures or trees on adjacent property within fifteen feet of adjoining property lines;
 8. The concept of the flood evacuation measures proposed and a plan showing the construction details or other measures necessary to implement the plan;
 9. Phasing of proposed work, as appropriate.
- C. All approved measures to mitigate flood hazards and to provide for the safe evacuation of the occupants of the proposed development shall become conditions of approval of the project. In addition all approved flood evacuation measures shall be installed prior to the final clearance of the building permit or concurrently with the installation of site improvements in the case of a subdivision map.
- D. The hydraulic analysis shall include the following:
1. The information required by B.1. through B.6. above, provided, however, that to the extent practicable, the analysis shall be based on one-foot contours.
 2. A comprehensive list of data sources used for the analysis.
 3. Hydraulic model(s) and related assumptions.
 4. Comparisons of the water surface profile and site topography.
 5. Disclosure of any limits to the analysis.
 6. Figures, tables and plans sufficient to illustrate the water surface profiles and water surface elevations, and areas of inundation in a 100-year flood; and the boundaries of the area included in the analysis. Plans should be to scale, and include street names, scale, and a north arrow.
 7. The area of analysis should include the site to be developed and surrounding areas to the nearest intersection that is outside of the city's identified flood evacuation area to demonstrate a safe evacuation route from the site.
- E. The following projects are exempt from the requirements of this section:
1. All nonresidential development, unless such nonresidential development includes residential development as part of a mixed use development, in which case the requirement for a flood evacuation plan shall be required;
 2. Residential developments which consist of four or fewer units or subdivisions with a development potential of four or fewer units;
 3. An addition or expansion of less than fifty percent of the original total floor area to an existing residential structure which, in the opinion of the public works director, involves no identifiable increase in the flood evacuation hazards to the occupants of such a structure;
 4. Construction within an existing structure which involves no expansion of the structure;
 5. Construction proposed for a site where an approved flood evacuation plan and/or hydraulic analysis has been prepared provided that the proposed development conforms to the recommendations of the previously approved plan and/or hydraulic analysis;
 6. A lot line adjustment;

7. A use which involves no buildings or structures.
(Ord. O2003 12; Ord. O2006 6)

17.38.080 Floodplain Management Regulations for the Floodway.

Floodways are areas specially designated within the special flood hazards area on the FIRM for the city (a copy of which is available in the office of the public works director). Floodways are extremely hazardous areas due to the velocity of flood waters which carry debris, potential projectiles, and erosion potential. On those lots zoned: FP which are located in the floodway, the following provisions shall apply in addition to the general development standards and requirements of section 17.38.060:

- A. New development projects are prohibited unless a floodway development analysis complying with section 17.38.090 prepared by a registered professional engineer or architect is provided demonstrating that such new development shall not result in any increase in the base flood elevation during the occurrence of the base flood discharge.
- B. No manufactured home shall be placed in a floodway, except in an existing manufactured home development, mobile home park or mobile home subdivisions.
(Ord. O2003 12)

17.38.090 Floodway Development Analysis Requirements.

In all cases where a development project is proposed in the floodway, a floodway development analysis, as described in this section prepared by a registered professional engineer or architect is required. The analysis shall supplement the existing data on the floodway by adding one or more cross sections across the entire floodway, prepared from field measurements. The number of cross sections required to complete these analyses shall be determined by the floodplain administrator. The minimum requirement shall be one cross section at the site of the proposed development.

- A. **Base Case Analysis.** Applicants shall prepare and submit for review a onehundred year water surface profile analysis of the entire length of the floodway within the city utilizing the FEMA data and analysis method as amended, without the imposition of any development which has occurred since the FIS as amended. In the event that the applicant's project is in close proximity to the city limits, the analysis shall extend into the unincorporated area a sufficient distance as determined by the analysis results, to demonstrate that there are no impacts beyond the analysis limits. The requirement to be met is that there shall be zero increase in the water surface area file for the entire length of the floodway when compared to the FEMA data as amended.
- B. **Cumulative Analysis.** Applicants shall prepare and submit for review a onehundred year water surface profile analysis, using an approved analysis method, of the entire length of the floodway within the city utilizing updated floodplain data that includes all floodway development which has occurred, or which has been approved but not constructed since the FIS as amended. In the event that the applicant's project is in close proximity to the city limits, the analysis shall extend into the unincorporated area a sufficient distance as determined by the analysis results, to demonstrate that there are no impacts beyond the analysis limits. The requirement to be met is that there shall be zero increase in the water surface area file for the entire length of the floodway.
- C. **Site Analysis.** Applicants shall prepare and submit for review an analysis of the site, including adjacent property which may be impacted. The analysis shall include a floodway blockage before and after comparison and shall detail and analyze flood flow and velocity changes which will result from the proposed project. This analysis shall include an accurate topographic drawing of the proposed project, including structures or other blockages on adjacent properties. The drawing submitted for this purpose shall identify the flood flow patterns through the proposed project. Any adverse impacts on surrounding properties in the floodway shall be one hundred percent mitigated. Specific compensatory action to increase flood carrying capacity must be proposed for any increase in blockage and for any adverse change in flood flow or velocity. Mitigation measures and compensatory actions proposed shall be verified by re-computing the one-hundred-year water surface profile under subsections A and B above.
- D. **Permanent Record, Methodology and Limitations.** All analyses shall, after review and final modifications, be submitted in a form that will provide a permanent record. The data and methodology approved by FEMA may change over time. When performing the analyses required by these regulations, the most current data and methodology approved by FEMA shall be utilized. In areas of rapid ground elevation change, accurate topographic mapping may

reveal minor differences between actual conditions and the adopted floodway. Regardless of such minor differences, no change in the adopted floodway shall be made.
(Ord. O2003 12)

17.38.100 Variance Procedure.

- A. The variance procedures and criteria set forth in this section are based on the general principle of zoning law that variances pertain to a piece of property and are not personal in nature. A variance may be granted for a parcel of property with physical characteristics so unusual that complying with the requirements of this chapter would create an exceptional hardship to the applicant or the surrounding property owners. The characteristics must be unique to the property and not be shared by the adjacent parcels. The unique characteristic must pertain to the land itself, not to the structure, its inhabitants, or the property owners.
- B. The City Council needs to help protect its citizens from flooding. This need is so compelling and the implications of the cost of insuring a structure built below flood level are so serious that variances from the flood elevation or from other requirements in this chapter should be quite rare. The long term goal of preventing and reducing flood loss and damage can only be met if variances are strictly limited. Therefore, the variance guidelines provided in this chapter are detailed, contain multiple provisions that must be met before a variance can be properly granted and shall supersede the general variance procedures set forth in Chapter 17.64 (Variances) of this Title. The criteria are designed to screen out those situations in which alternatives other than a variance are more appropriate.
- C. In order to ensure accomplishment of the goals of this chapter, only the City Council is authorized to act upon requests for a variance. The City Council shall hold a public hearing on the application prior to making a decision. In reviewing requests for variances, the City Council shall consider all technical evaluations, all relevant factors, standards specified in other sections of this chapter and the:
 - 1. Danger that materials may be swept onto other lands to the injury of others;
 - 2. Danger of life and property due to flooding;
 - 3. Susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the existing owner and future owners of the property;
 - 4. Importance of the services provided by the proposed facility to the community;
 - 5. Necessity to the facility of a waterfront location, where applicable;
 - 6. Availability of alternative locations for the proposed use which are not subject to flooding;
 - 7. Compatibility of the proposed use with existing and anticipated development;
 - 8. Relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
 - 9. Safety of access to the property in time of flood for ordinary and emergency vehicles;
 - 10. Expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters expected at the site; and
 - 11. Costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water system, and streets and bridges.
- D. The City Council may grant a variance for development on a lot of ½ acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing that the requirements of sections 17.38.060 and 17.38.080 and 17.38.090, as applicable, have been fully considered. As the lot size increases, beyond ½ acre, the technical justification required for issuing the variance increases. In order to grant a variance, the City Council must find:
 - 1. The applicant has made a showing of good and sufficient cause;
 - 2. The failure to grant the variance would result in exceptional "hardship" (as defined in section 17.38.030 of this chapter) to the applicant;
 - 3. The variance will not result in increased flood heights, additional threats to public safety, i.e. anything which is injurious to the health or safety of the entire community, a neighborhood or any considerable number of people, extraordinary public expense, creation of a nuisance, obstruction of free passage or use in the customary manner of any navigable river, a conflict with existing laws or regulations or cause fraud or

- victimization of the public or future owners who are unaware of potential flood damage and high insurance rates;
4. The variance will afford the requested relief with the minimum deviation from the requirements of this chapter;
 5. If the property is within any mapped regulatory floodway, no increase in flood levels during the base flood discharge would result from the grant of the variance; and
 6. Such conditions as are necessary to further the purposes of this chapter have been imposed.
- E. The City Council may grant a variance for development which is necessary for the conduct of a functionally dependent use if the City Council finds that the development:
1. Complies with the provisions of section 17.38.050;
 2. Is protected by methods that minimize flood damage during the base flood;
 3. Does not result in threats to public safety; and
 4. Does not create a public nuisance.
- F. The floodplain administrator shall ensure that any variance granted to construct a structure below the base flood elevation includes a notice that such construction will result in increased premium rates for flood insurance significantly and shall record such notice in the office of the Napa County Recorder.
- G. The floodplain administrator shall maintain a record of all variance actions and report such variances issued in its biennial report submitted to the Federal Insurance Administration and Federal Emergency Management Agency.
(Ord. O2003 12)

**Preliminary Salvador Creek Flood Boundaries March 2009
Floodplain under preparation by FEMA**



**Salvador Creek
Preliminary Flood Boundaries**



CITY of NAPA
Map by City of Napa GIS Services

FLOOD INSURANCE RATE MAP EXAMPLE

Flood Insurance Rate Maps or FIRMs show Flood Plain and floodway Boundaries or Special Flood Hazard Areas in a community. They are used by lenders and insurance agents to determine insurance rates for insurable buildings. They are used by the community to determine if a property is located in a Special Flood Hazard Area and to determine development guidelines for properties located in areas. The current effective Flood Insurance Rate Maps for the City of Napa are dated September 26, 2008.



Copies available for review at:
 City of Napa Public Works Department
 1600 First Street
 Napa, CA 94559

Flood Insurance Rate Maps (FIRM Maps) applicable to the City include Map Panels 504, 505, 508, 509, 510, 512, 515, 516, 517, 518, 519, 610 and 650



Legend	
	repetitive
	river
	parcel
	unimproved
	city body



FEMA Repetitive Loss Properties 2007