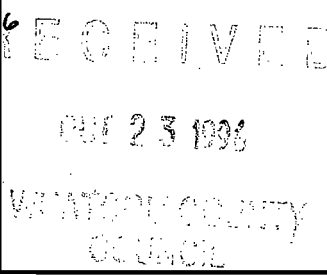


CLEARANCES	Initial	Date	Date Received in Council Office:	Agenda date	Assigned to:
Originator: Jeff Monsen	Jm	10/22/96		10/29/96	Introduction
Division Head:				11/12/96	Hearing
Dept. Head: Jeff Monsen	Jm	10/22			
Prosecutor: Randy Watts	RW	10/22			
Purchasing/Budget:					
Executive:					

SUBJECT:

An Ordinance Amending Whatcom County Code, Title 17, Flood Damage Protection

ATTACHMENTS:

- Ordinance
- Cover letter
- FEMA letter to County Executive
- Letter of response to FEMA from River & Flood Control Section

SUMMARY STATEMENT:

Please complete sections of box as appropriate & explain the item below.

Related County contract #: N/A	Should Clerk schedule a hearing? NO / <input type="checkbox"/> / YES / <input checked="" type="checkbox"/> / Requested date:
Amount budgeted for this item/project: N/A	Is it (or will it be) within budget? YES / <input type="checkbox"/> / NO / <input type="checkbox"/> / (Please explain below)
Budget line item number(s):	

The Federal Emergency Management Agency (FEMA) put Whatcom County on notice that certain revisions must be made to the County Flood Ordinance, Whatcom County Code, Title 17, to bring it into compliance with all State and Federal standards.

ORIGINATOR'S RECOMMENDED ACTION:

Approval by Council

COMMITTEE ACTION TAKEN:

COUNCIL ACTION TAKEN:

96 - 378 10/29/96: Introduced
 11/12/96: Amended & Adopted 7 - 0. Ord. #96-050

Ordinance or Resolution Number (this item only):

Ord. 96-050

SPONSORED BY: _____

PROPOSED BY: Public Works

INTRODUCTION DATE: 10/29/96

ORDINANCE NO. 96-050

AN ORDINANCE AMENDING WHATCOM COUNTY CODE, TITLE 17
FLOOD DAMAGE PROTECTION

WHEREAS, the Federal Emergency Management Agency (FEMA) has determined that Whatcom County's Flood Ordinance, as codified in the Whatcom County Code, Title 17, does not meet minimum standards for participation in the National Flood Insurance Program (NFIP); and

WHEREAS, compliance with the NFIP is a condition of receiving Hazard Mitigation Grant Program funding; and


WHEREAS, FEMA has notified Whatcom County that certain revisions must be made to the County Flood Ordinance, Title 17, to bring it into compliance with all State and Federal standards,

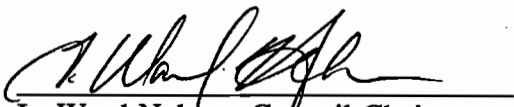
NOW, THEREFORE, BE IT ORDAINED by the Whatcom County Council that Title 17, Flood Damage Protection, of the Whatcom County Code, be amended as per the language in Exhibit 'A' attached hereto.

ADOPTED this 12th day of November, 1996.

WHATCOM COUNTY COUNCIL
WHATCOM COUNTY, WASHINGTON

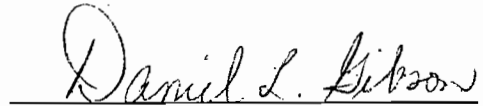
ATTEST:

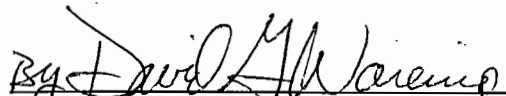

Dana-Brown Davis, County Clerk


L. Ward Nelson, Council Chair

APPROVED AS TO FORM:

Approved Denied


Civil Deputy Prosecutor


Pete Kremen, County Executive
Date: 12/3/96

**Title 17
FLOOD DAMAGE PREVENTION**

Chapters:

- 17.04 General Provisions
- 17.08 Definitions
- 17.12 Administration
- 17.16 Flood Hazard Reduction

**Chapter 17.04
GENERAL PROVISIONS**

Sections:

- 17.04.010 Findings of fact.
- 17.04.020 Statement of purpose and liability disclaimer.
- 17.04.030 Methods of reducing flood losses.
- 17.04.040 Application of title.
- 17.04.050 Basis for establishing areas of special flood hazard.
- 17.04.060 Abrogation and greater restrictions.
- 17.04.070 Interpretation.
- 17.04.080 Compliance required.
- 17.04.090 Penalty for noncompliance.

17.04.010 Findings of fact.

The findings of fact are the following:

A. The flood hazard areas of Whatcom County 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.

B. These flood losses are caused by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities, and when inadequately anchored, damage uses in other areas. Uses that are inadequately floodproofed, elevated or otherwise protected from flood damage also contribute to the flood loss. (Ord. 87-25 (part)).

17.04.020 Statement of purpose and liability disclaimer.

This title is enacted as an exercise of the police power of the county for the benefit of the public at large. It is not intended to create a special relationship with any individual, or individuals, nor to identify and protect any particular class of persons. The purpose of this title is to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas. The

degree of flood protection required by this title is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on occasion. Flood heights may be increased by manmade or natural causes. This title does not imply that land outside of the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This title shall not create liability on the part of Whatcom County, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this title or any administrative decision lawfully made thereunder. Nor shall the county or any officer, agent, or employee thereof incur or be held as assuming any liability by reason or in consequence of any permission, certificate of inspection, inspection or approval authorized herein, or issued or given as herein provided, or by reasons or consequence of any things done or acts performed pursuant to the provisions of this title. (Ord. 87-25 (part)).

17.04.030 Methods of reducing flood losses.

In order to accomplish its purposes, this title includes methods and provisions for:

A. Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;

B. Requiring that uses vulnerable to floods, including facilities which serve such uses, shall be protected against flood damage at the time of initial construction;

C. Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;

D. Controlling filling, grading, dredging, and other development which may increase flood damage; and

E. Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas. (Ord. 87-25 (part)).

17.04.040 Application of title.

This title shall apply to all areas of special flood hazards within the jurisdiction of Whatcom County. (Ord. 87-25 (part)).

17.04.050 Basis for establishing areas of special flood hazard.

The areas of special flood hazard identified by the Federal Insurance Administration are contained in a scientific and engineering report entitled "The Flood Insurance Study for the

County of Whatcom, Washington" (effective date September 30, 1977). The accompanying Flood Insurance Rate Maps, dated September 30, 1977 and September 28, 1990, including accompanying reports and any subsequent amendments made by the Federal Emergency Management Agency, are adopted by reference and declared to be a part of this title. The flood insurance study is on file at the department of public works. (Ord. 90-94; Ord. 87-25 (part)).

17.04.060 Abrogation and greater restrictions.

This title is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this title and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail. (Ord. 87-25 (part)).

17.04.070 Interpretation.

In the interpretation and application of this title, all provisions shall be:

- A. Considered as minimum requirements;
- B. Liberally construed in favor of the governing body; and
- C. Deemed neither to limit nor repeal any other powers granted under state statutes. (Ord. 87-25 (part)).

17.04.080 Compliance required.

No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this title and other applicable regulations. (Ord. 87-25 (part)).

17.04.090 Penalty for noncompliance.

Any person, firm or corporation violating any of the provisions of this title shall be deemed guilty of a misdemeanor and each day during which such violation is continued or committed shall constitute a separate offense, and upon conviction thereof, shall be punished by a fine of not more than \$500.00 or by imprisonment in the county jail for a period not exceeding 90 days, or by both such fine and imprisonment. Nothing contained herein shall prevent Whatcom County from taking such other lawful action as is necessary to prevent or remedy any violation. (Ord. 87-25 (part)).

**Chapter 17.08
DEFINITIONS**

Sections:

- 17.08.010 Generally.

17.08.015 Administrator.
17.08.020 Appeal.
17.08.030 Area of shallow flooding.
17.08.040 Area of special flood hazard.
17.08.050 Base flood.
17.08.055 Breakaway wall.
17.08.057 Coastal high hazard area.
17.08.060 Development.
17.08.070 Flood or flooding.
17.08.080 Flood Insurance Rate Map (FIRM).
17.08.090 Flood insurance study.
17.08.095 Floodway.
17.08.100 Lowest floor.
17.08.110 Manufactured home.
~~17.08.130 Recreational Vehicles~~
17.08.120 Manufactured home park or subdivision.
17.08.140 New construction.
17.08.160 Start of construction.
17.08.170 Structure.
17.08.180 Substantial improvement.
17.08.190 Variance.

17.08.010 Generally.

Unless specifically defined below, words or phrases used in this title shall be interpreted so as to give them the meaning they have in common usage or to give this title its most reasonable application. (Ord. 87-25 (part)).

17.08.015 Administrator.

Whenever the term "administrator" is used it means the director of public works or his designee. (Ord. 87-25 (part)).

17.08.020 Appeal.

"Appeal" means a request for a review of the administrator's interpretation of any provision of this title or a request for a variance. (Ord. 87-25 (part)).

17.08.030 Area of shallow flooding.

"Area of shallow flooding" means a designated AO or AH zone on the Flood Insurance Rate Map (FIRM). The base flood depths range from one to three feet; a clearly defined channel does not exist; the path of flooding is unpredictable and indeterminate; and, velocity flow may be evident. AO is characterized as sheet flow and AH indicates ponding. (Ord. 87-25 (part)).

17.08.040 Area of special flood hazard.

"Area of special flood hazard" means the land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year. (Ord. 87-25 (part)).

17.08.050 Base flood.

"Base flood" means the flood having a one percent chance of being equalled or exceeded in any given year. Also referred to as "one hundred-year flood." Designation on maps always includes the letters A or V. (Ord. 87-25 (part)).

17.08.055 Breakaway wall.

"Breakaway wall" means a wall that is not a part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damages to the elevated portion of the building or supporting foundation system. (Ord. 87-25 (part)).

17.08.057 Coastal high hazard area.

"Coastal high hazard area" means the area subject to high velocity waters, including but not limited to, storm surge or tsunamis. The area is designated on the FIRM as Zone V1-V30, VE or V. (Ord. 87-25 (part)).

17.08.060 Development.

"Development" means any manmade 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 located within the area of special flood hazard. (Ord. 87-25 (part)).

17.08.070 Flood or flooding.

"Flood or flooding" means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- A. The overflow of inland or tidal waters; and/or
- B. The unusual and rapid accumulation or runoff of surface waters from any source. (Ord. 87-25 (part)).

17.08.080 Flood Insurance Rate Map (FIRM).

"Flood Insurance Rate Map" (FIRM) means the official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community. (Ord. 87-25 (part)).

17.08.090 Flood insurance study.

"Flood insurance study" means the official report provided by the

Federal Insurance Administration that includes flood profiles, the Flood Boundary Map, and the water surface elevation of the base flood. (Ord. 87-25 (part)).

17.08.095 Floodway.

"Floodway" means the channel of a river or other watercourse or land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot. (Ord. 87-25 (part)).

17.08.100 Lowest floor.

"Lowest floor" means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable nonelevation design requirements of this title found at Section 17.16.080(2). (Ord. 87-25 (part)).

17.08.110 Manufactured home.

"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 connected to the required utilities. For floodplain management purposes the term "manufactured home" also includes park trailers, travel trailers and other similar vehicles placed on a site for greater than 180 consecutive days. For insurance purposes the term "manufactured home" does not include park trailers, travel trailers, and other similar vehicles. (Ord. 87-25 (part)).

17.08.120 Manufactured home park or subdivision.

"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. (Ord. 87-25 (part)).

17.08.130 Recreational Vehicle

"Recreational vehicle" is 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; and
- D. Designed primarily not for use as a permanent dwelling

but as temporary living quarters for recreational, camping, travel, or seasonal use.

17.08.140 New construction.

"New construction" means structures for which the start of construction commenced on or after the effective date of the ordinance codified in this title. (Ord. 87-25 (part)).

17.08.160 Start of construction.

"Start of construction" includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the 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 walkways; nor does it include excavation for a basement, footings, piers, or foundation 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 part of the main structure. (Ord. 87-25 (part)).

17.08.170 Structure.

"Structure" means a walled and roofed building including a gas or liquid storage tank that is principally above ground. (Ord. 87-25 (part)).

17.08.180 Substantial improvement.

A. "Substantial improvement" means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either:

1. Before the improvement or repair is started; or
2. If the structure has been damaged and is being restored, before the damage occurred.

For the purpose of this definition, "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure.

B. The term does not, however, include either:

1. Any project for improvement of a structure to comply with existing state or local health, sanitary or safety code specifications which are solely necessary to assure safe living conditions; or

2. Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places. (Ord. 87-25 (part)).

17.08.190 Variance.

"Variance" means a grant of relief from the requirements of this title which permits construction in a manner that would otherwise be prohibited by this title. (Ord. 87-25 (part)).

**Chapter 17.12
ADMINISTRATION**

Sections:

17.12.010 Establishment of development permit.

17.12.020 Administrative department - Designated.

17.12.030 Administrative department - Duties and responsibilities.

17.12.040 Variances - Appeals board established - Factors taken into account - Maintenance of records.

17.12.050 Variances - Conditions for issuance.

17.12.010 Establishment of development permit.

A development permit shall be obtained before construction or development begins within any area of special flood hazard established in Section 17.04.050. The permit shall be for all structures including manufactured homes, as set forth in the definitions, and for all development including fill and other activities, also as set forth in the definitions. Application for a development permit shall be made on forms furnished by the department of public works and may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question, existing or proposed structures, fill, storage of materials, drainage facilities, and the location of the foregoing.

Specifically, the following information is required:

A. Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures;

B. Elevation in relation to mean sea level to which any structure has been floodproofed;

C. Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria as provided in Section 17.16.090; and

D. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development. (Ord. 87-25 (part)).

17.12.020 Administrative department -Designated.

The department of public works is appointed to administer and implement this title by granting or denying development permit applications in accordance with its provisions. (Ord. 87-25 (part)).

17.12.030 Administrative department - Duties and responsibilities.

The duties of the department of public works shall include, but not be limited to:

A. Permit Review. The department of public works shall:

1. Review all development permits to determine that the permit requirements of this title have been satisfied;

2. Review all development permits to determine that all necessary permits have been obtained from those federal, state or local governmental agencies from which prior approval is required;

3. Review all development permits to determine if the proposed development adversely affects the flood-carrying capacity of the area of special flood hazard. 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 not increase the water surface elevation of the base flood more than one foot at any point.

B. Use of Other Base Flood Data. When base flood elevation data has not been provided in accordance with Section 17.04.050 basis for establishing the areas of special flood hazard, the department of public works shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source, in order to administer Sections 17.16.070, specific standards and 17.16.120 floodways.

C. Information to be Obtained and Maintained. The department of public works shall:

1. When base flood elevation data is provided through the Flood Insurance Study or required as in Section 17.12.030B, obtain and record the actual elevation (in relation to mean sea level) of the lowest habitable floor (including basement) of all new or substantially improved structures;

2. For all new or substantially improved floodproofed structures:

a. Verify and record the actual elevation (in

relation to mean sea level), and

b. Maintain the floodproofing certifications required in Section 17.12.010A;

3. Maintain for public inspection all records pertaining to the provisions of this title.

D. Alteration of Watercourse. The department of buildings and codes administration shall:

1. Notify adjacent communities and the Washington State Department of Ecology prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration;

2. Require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.

E. Interpretation of FIRM boundaries. The department of public works shall make interpretations where needed, as to the exact location of the boundaries of the areas of special flood hazards (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 Section 17.12.040.

F. Required Submission of Additional Information. The administrator shall have authority to require the applicant to submit information certified by licensed professional land surveyors, architects or engineers as may be reasonably necessary to assure conformance with the standards of this title. (Ord. 87-25 (part)).

17.12.040 Variances - Appeals board established - Factors taken into account - Maintenance of records.

A. The hearing examiner as established by Whatcom County shall hear and decide appeals and requests for variances from the requirements of this title.

B. The hearing examiner shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the administrator in the enforcement or administration of this title.

C. Those aggrieved by the decision of the hearing examiner, or any taxpayer, may appeal such decision to the Superior Court, as provided in RCW Chapter 36.70.

D. In passing upon such applications, the hearing examiner shall consider all technical evaluations, all relevant factors, standards specified in other sections of this title, and:

1. The danger that materials may be swept onto other land to the injury of others;

2. The danger of life and property due to flooding or erosion damage;
3. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
4. The importance of the services provided by the proposed facility to the community;
5. The necessity to the facility of a waterfront location, where applicable;
6. The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;
7. The compatibility of the proposed use with existing and anticipated development;
8. The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
9. The safety of access to the property in times of flood for ordinary and emergency vehicles;
10. The expected heights, velocity, duration, rate of rise, the sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and
11. The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, water systems, and streets and bridges.

E. Upon consideration of the factors of subsection D of this section and the purposes of this title, the hearing examiner may attach such conditions to the granting of variances as it deems necessary to further the purposes of this title.

F. The hearing examiner shall maintain the records of all appeal actions and report any variances to the Federal Insurance Administration upon request. (Ord. 87-25 (part)).

17.12.050 Variances - Conditions for issuance.

A. Generally, the only condition under which a variance from the elevation standard may be issued is for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, provided items 1 through 11 in Section 17.12.040D have been fully considered. As the lot size increases the technical justification required for issuing the variance increases.

B. Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places, without regard to the procedures set forth in

the remainder of this section.

C. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

D. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

E. Variances shall only be issued upon:

1. A showing of good and sufficient cause;
2. A determination that failure to grant the variance would result in exceptional hardship to the applicant; and
3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public as identified in Section 17.12.040D, or conflict with existing local laws or ordinances.

F. Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that they pertain to a physical piece of property; they are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods. As such, variances from the flood elevations should be quite rare.

G. Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of floodproofing than watertight or dry-floodproofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria except Section 17.12.050A, and otherwise complies with Sections 17.16.020 and 17.16.030 of the general standards.

H. Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with a lowest floor elevation below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation. (Ord. 87-25 (part)).

Chapter 17.16

FLOOD HAZARD REDUCTION

Sections:

- 17.16.010 General standards.
- 17.16.020 Anchoring.
- 17.16.030 Construction materials and methods.
- 17.16.040 Utilities.

- 17.16.050 Subdivision proposals.
- 17.16.060 Review of building permits.
- 17.16.070 Specific standards.
- 17.16.080 Residential construction.
- 17.16.090 Nonresidential construction.
- 17.16.100 Manufactured homes.
- 17.16.110 Agricultural buildings.
- ~~17.16.115 Recreational Vehicles~~
- 17.16.120 Floodways.
- 17.16.130 Standards for shallow flooding areas (AO zones).
- 17.16.140 Coastal high hazard areas.

17.16.010 General standards.

In all areas of special flood hazards the standards set forth in Sections 17.16.020 through 17.16.060 are required. (Ord. 87-25 (part)).

17.16.020 Anchoring.

A. All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure.

B. All manufactured home must likewise be anchored to prevent flotation, collapse or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors (Reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques). (Ord. 87-25 (part)).

17.16.030 Construction materials and methods.

A. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.

B. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage. Electrical, heating, ventilation, plumbing and air-conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding. (Ord. 87-25 (part)).

17.16.040 Utilities.

A. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.

B. New and replacement sanitary sewage systems shall be

designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters.

C. On-site waste disposal systems shall be located to avoid impairment to them, or contamination from them, during flooding. (Ord. 87-25 (part)).

17.16.050 Subdivision proposals.

A. All subdivision proposals shall be consistent with the need to minimize flood damage.

B. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.

C. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage.

D. Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposals and other proposed development which contain at least 50 lots or five acres (whichever is less). (Ord. 87-25 (part)).

17.16.060 Review of building permits.

Where elevation data is not available, either through the flood insurance study or from another authoritative source (Section 17.12.030B), applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate at least two feet above grade in these zones may result in higher insurance rates. (Ord. 87-25 (part)).

17.16.070 Specific standards.

In all areas of special flood hazards where base flood elevation data has been provided as set forth in Section 17.04.050, basis for establishing the areas of special flood hazards, or Section 17.12.030B, use of other base flood data, the provisions set forth in Sections 17.16.080 through 17.16.110 are required. (Ord. 87-25 (part)).

17.16.080 Residential construction.

A. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to or above base flood elevation.

B. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or shall be designed to

automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of flood waters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:

1. 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 shall be provided;

2. The bottom of all openings shall be no higher than one foot above grade;

3. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters. (Ord. 87-25 (part)).

17.16.090 Nonresidential construction.

New construction and substantial improvement of any commercial, accessory, agricultural, industrial or other nonresidential structure:

A. Shall either have the lowest floor, including basement, elevated to the level of the base flood elevation; or

B. Together with attendant utility and sanitary facilities, shall:

1. Be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water;

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 design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications and plans. Such certifications shall be as set forth in Section 17.12.030F and shall be provided by the applicant or required by the department of public works.

C. Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in Section 17.16.080B.

D. Applicants floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the floodproofed level (e.g., a building constructed to the base flood level will be rated as one foot below that level). (Ord. 87-25 (part)).

17.16.100 Manufactured homes.

All manufactured homes to be placed or substantially improved

within Zones A1-30, AH, and AE shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is at or above the base flood elevation and be securely anchored to an adequately anchored foundation system in accordance with the provisions of Section 17.16.020B. (Ord. 87-25 (part)).

17.16.110 Agricultural buildings.

Agricultural buildings shall comply with Section 17.16.090, ~~unless the department of buildings and codes administration, in consultation with the county engineer, is satisfied that the proposed building with its utilities and equipment, and the proposed contents of the building, are of such design or nature as to reasonably withstand damages from flooding. (Ord. 87-25 (part)).~~

17.16.115 Recreational Vehicles

Recreational vehicles placed on sites within Zones A1-30, AH, AE and all V Zones on the community's FIRM shall either:

- A. Be on the site for fewer than 180 consecutive days, and**
- B. Be fully licensed and ready for highway use, on its wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices, and having no permanently attached additions; or**
- C. Meet the requirements of Section 17.16.100 above and anchoring requirements for manufactured homes.**

17.16.120 Floodways.

Located within areas of special flood hazard established in Section 17.04.050 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles, and erosion potential, the following provisions apply:

A. Prohibit encroachments, including fill, new construction, substantial improvements, and other development unless certification by a registered professional engineer or architect is provided demonstrating that encroachments shall not result in ~~more than one foot~~ any increase in flood levels during the occurrence of the base flood discharge.

B. ~~Construction or reconstruction of residential structures is prohibited within designated floodways, except for (i) repairs, reconstruction, or improvements to a structure which do not increase the ground floor area; and (ii) repairs, reconstruction or improvements to a structure, the cost of which does not exceed 50 percent of the market value of the structure, either, (a) before the repair, reconstruction, or repair is started, or (b) if the structure has been damaged, and is being~~

restored, before the damage occurred. Work done on structures to comply with existing health, sanitary, or safety codes or to structures identified as historic places shall not be included in the 50 percent.

BC. If Section 17.16.120A is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Chapter 17.16, ~~Flood Hazard Reduction~~. (Ord. 87-25 (part)).

17.16.130 Standards for shallow flooding areas (AO zones).

Shallow flooding areas appear on FIRMS as AO zones with depth designations. The base flood depths in these zones range from one to three feet where a clearly defined channel does not exist, or where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is usually characterized as sheet flow. In these areas, the following provisions apply:

A. New construction and substantial improvements of residential structures within AO zones shall have the lowest floor (including basement) elevated above the highest adjacent grade of the building site, to or above the depth number specified on the FIRM (at least two feet if no depth number is specified).

B. New construction and substantial improvements of nonresidential structures within AO zones shall either:

1. Have the lowest floor (including basement) elevated above the highest adjacent grade of the building site, to or above the depth number specified on the FIRM (at least two feet if no depth number is specified); or

2. Together with attendant utility and sanitary facilities, be completely floodproofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. If this method is used, compliance shall be certified by a registered professional engineer or architect as in Section 17.16.090A.3.

C. Adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures shall be provided. (Ord. 87-25 (part)).

17.16.140 Coastal high hazard areas.

Located within areas of special flood hazard established in Section 17.14.050 are coastal high hazard areas, designated as

zones V1-V30, VE and/or V. These areas have special flood hazards associated with high velocity waters from tidal surges and, therefore, in addition to meeting all provisions in this title, the following provisions shall also apply:

A. All new construction and substantial improvements in Zones V1-V30 and VE (V if base flood elevation data is available) shall be elevated on pilings and columns so that:

1. The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to or above the base flood level; and

2. The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Wind and water loading values shall each have a one percent chance of being equalled or exceeded in any given year (100-year mean recurrence interval); A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of 1 and 2 of this subsection.

B. Obtain the elevation (in relation to mean sea level) of the bottom of the lowest structural member of the lowest floor (excluding pilings and columns) of all new and substantially improved structures in Zones V1-30 and VE, and whether or not such structures contain a basement. The local administrator shall maintain a record of all such information.

C. All new construction shall be located landward of the reach of mean high tide.

D. Provide that all new construction and substantial improvements have the space below the lowest floor either free of obstruction or constructed with nonsupporting breakaway walls, open wood latticework, or insect screening intended to collapse under wind and water loads without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting foundation system. For the purpose of this section, a breakaway wall shall have a design safe loading resistance of not less than 10 and no more than 20 pounds per square foot. Use of breakaway walls which exceed a design safe loading resistance of 20 pounds per square foot (either by design or when so required by local or state codes) may be permitted only if a registered professional engineer or architect certifies that the designs proposed meet the following conditions:

1. Breakaway wall collapse shall result from a water

load less than that which would occur during the base flood; and

2. The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and nonstructural). Maximum wind and water loading values to be used in this determination shall each have a one percent chance of being equalled or exceeded in any given year (100-year mean recurrence interval).

E. If breakaway walls are utilized, such enclosed space shall be usable solely for parking of vehicles, building access, or storage. Such space shall not be used for human habitation.

F. Prohibit the use of fill for structural support of buildings.

G. Prohibit manmade alteration of sand dunes which would increase potential flood damage. (Ord. 87-25 (part)).