

SECTION PP313 - FLOODPLAIN CODE – DRAFT SUBJECT TO CHANGE 092504

PP313.1 STATUTORY AUTHORIZATION.

The Legislature of the state of Colorado has delegated in Sections 31-23-301, 30-28-111 and 30-28-115(1), Colorado Revised Statutes, the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the adopting jurisdiction does ordain as set out in this section.

PP313.2 FINDINGS OF FACT.

PP313.2.1 The flood hazard areas of the Pikes Peak region are subject to periodic inundation which could result 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 could adversely affect the public health, safety and general welfare.

PP313.2.2 These flood losses could be 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 flood proofed, elevated or otherwise protected from flood damage also contribute to the flood loss.

PP313.3 STATEMENT OF PURPOSE.

It is the purpose of this section 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 designed:

1. To protect human life and health;
2. To minimize expenditure of public money for costly flood control projects;
3. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the

expense of the general public;

4. To minimize prolonged business interruptions;
5. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas of special flood hazard;
6. To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard;
7. To insure that potential buyers are notified that the property is in an area of special flood hazard; and
8. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

PP313.4 METHODS OF REDUCING FLOOD LOSSES.

In order to accomplish these purposes, this section includes methods and provisions for:

1. 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, flood heights or velocities;
2. Requiring that uses vulnerable to floods, including facilities, which serve such uses, be protected against flood damage at the time of initial construction;
3. Controlling the alteration of natural floodplains, stream channels, and natural protective barriers that help accommodate or channel floodwaters;
4. Controlling filling, grading, dredging, and other development which may increase flood damage;
5. Preventing or regulating the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas;

6. Prohibiting any development in regulatory floodway if any increase in flood levels during the base flood discharge would result.

PP313.5 DEFINITIONS.

Unless specifically defined below, words or phrases used in this section shall be interpreted so as to give them the meaning they have in common usage and to give this section its most reasonable application.

ALLUVIAL FAN FLOODING. Flooding occurring on the surface of an alluvial fan or similar landform which originates at the apex and is characterized by high-velocity flows; active processes of erosion, sediment transport, and deposition; and, unpredictable flow paths.

APPURTENANT STRUCTURE. A structure which is on the same parcel of property as the principle structure to be insured, and the use of it is incidental to the use of the principle structure.

AREA OF SHALLOW FLOODING. A designated AO, AH, AR/AO, AR/AH, or VO zone on a community's Flood Insurance rate Map (FIRM) with a 1 percent or greater chance of flooding to an average depth of 1 to 3 feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where the velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

AREA OF SPECIAL FLOOD HAZARD. Land in a floodplain within a community subject to a 1 percent or greater chance of flooding in any given year. The area may be designated as Zone A on the FHBM. After detailed ratemaking has been completed in the preparation for publication of the flood insurance rate map, Zone A usually is redefined into Zones A, AO, AH, A1-30, AE, A99, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A, VO, or V1-30, VE, or V. For purposes of these regulations, the term "special flood hazard area" is synonymous in meaning with the phrase "area of special flood hazard".

100-YEAR FLOOD. A flood event having

a 1.0 percent chance of occurring in any given year.

500-YEAR FLOOD. A flood event having a 0.2 percent chance of occurring in any given year.

ATTENDANT FACILITIES. HVAC duct work, HVAC units, water heater, boiler, AC compressors, electrical breaker panels and meters, and any other such devices and connections required for habitable and sanitary use of the structure. It does not include the main underground stub to the property for electrical, sewer, water, gas, etc.

APPEAL. A request for a review of the Floodplain Administrator's/Engineer's interpretation of any provision of this section or a request for a variance.

AREA OF SPECIAL HAZARD. Land in the floodplain within a community subject to a 1 percent or greater chance of flooding in any given year.

BASE FLOOD. A flood having a 1 percent chance of being equaled or exceeded in any given year.

BASEMENT. Any area of the building having its floor subgrade (below ground level) on all sides.

BREAKAWAY WALL. A wall that is not 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 damage to the elevated portion of the building or supporting foundation system.

BUILDABLE LOT. The area of land required in coordination with all applicable codes adopted by the jurisdiction that enables the construction of a building, access and all utilities for habitability.

CHANGE OF USE. When a current structure changes use per building code and is required to meet all current building codes for the new use including being brought into compliance of current floodplain ordinances.

CLOMR. Conditional Letter of Map Revision processed through FEMA

COMPENSATORY STORAGE. The

providing of equal or greater amount of storage to compensate for that which was destroyed.

CRITICAL FACILITIES. Facilities required for the safety and/or continued occupation of the public as a whole. Examples of these facilities are as follows but not limited to hospitals, fire stations, police stations, jails, water treatment plants, wastewater treatment plants, gas / electric utility facilities, fall out and Red Cross shelters, schools, etc.

CRITICAL FEATURE. An integral and readily identifiable part of a flood protection system, without which the flood protection provided by the entire system would be compromised.

DEVELOPMENT. Any manmade change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation, drilling operations or storage of equipment or materials located within the area of special flood hazard.

DEVELOPMENT PERMIT. The permit issued by the Floodplain Administrator/Engineer before a development occurs within any area of special flood hazard.

ELEVATED BUILDING. For insurance purposes, a building without a basement which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings or columns.

EXISTING CONSTRUCTION or EXISTING STRUCTURE. For the purpose of determining rates, structures for which the "start of construction" commenced before the effective date of the FIRM, or before January 1, 1975 for FIRMs effective before that date.

EXISTING MANUFACTURED HOME PARK OR SUBDIVISION. A manufactured home park 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) are completed before the effective date of the floodplain management regulations adopted by the community.

EXPANSION TO EXISTING MANUFACTURED HOME PARK OR SUBDIVISION. The preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

FLOOD or FLOODING. A general and temporary condition of partial or complete inundation of normally dry land areas from the unusual and rapid accumulation or runoff of surface waters from any source.

FLOOD INSURANCE RATE MAP (FIRM). The official map on which the Federal Emergency Management Agency has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

FLOOD INSURANCE STUDY (FIS) or FLOOD ELEVATION STUDY. The official report provided by the Federal Emergency Management Agency that includes flood profiles, the flood boundary-floodway map and the water surface elevation of the base flood.

FLOODPLAIN or FLOOD PRONE AREA. Any land area susceptible to being inundated by water from any source (see definition of "flooding").

FLOODWAY. 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 (1').

FLOOD FRINGE. Areas denoted on the floodway map that are adjacent to the floodway and within the 100-year floodplain.

FLOOD PROOFING. 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.

FREEBOARD. A factor of safety usually expressed in feet above the flood level for purposes of floodplain management. Freeboard tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effects of urbanization of the watershed.

GOVERNING BODY. A board of township trustees, city council, or board of county commissioners as determined and elected by the jurisdiction.

LEVEE. A manmade structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water to provide protection from flooding.

LEVEE SYSTEM. A flood protection system, which consists of a levee, or levees, and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices.

LOWEST FLOOR. 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 as a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of Section PP313.18.

MANUFACTURED HOME. A structure that is transportable in one or more sections, built on a permanent chassis, and designed to be used with or without a permanent foundation when connected to the required utilities. For purposes of these regulations, manufactured home also includes recreational vehicles or travel trailers placed on a site for more than one hundred eighty (180) days.

LOMR. Letter of Map Revision processed through FEMA

LOMR-F. Letter of Map Revision based on fill processed through FEMA

MANUFACTURED HOME PARK or SUBDIVISION. A parcel of land divided into two or more manufactured home lots for rent or sale.

MANUFACTURED HOME IN-KIND REPLACEMENT. A singlewide modular may be replaced with a singlewide modular or a doublewide modular may be replaced with a doublewide modular, but a singlewide modular being upgraded to a doublewide modular must meet section PP313.18 for new construction.

MEAN SEAL LEVEL. The National Geodetic Vertical Datum (NGVD) or other datum, to which base flood elevations shown on a community's Flood Insurance Rate Map are referenced.

NEW CONSTRUCTION. Structures for which the 'start of construction' commences on or after the effective date of initial floodplain management regulations adopted by the community; and is applicable to subsequent improvements to such structures.

RECREATIONAL VEHICLE. A vehicle which is built on a single chassis; four-hundred square feet or less when measured at the largest horizontal projections; designed to be self-propelled or towed by a light duty truck; and designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

REGULATORY FLOODWAY. 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 a designated height.

RESPONSIBLE PARTY. The governing body within the jurisdiction or its designee (i.e. special district, parks department, etc.) or a home owners association as approved by the governing body and stated in the neighborhood covenants.

REVIEW BOARD. The City / County Drainage Board or Pikes Peak Regional

Building Department Board of Review as determined by the jurisdiction.

START OF CONSTRUCTION. the first placement of permanent construction of a structure on a site, such as the pouring of slabs or footings, installation of piles, construction of columns or any work beyond the stage of excavation. For a structure without a basement or poured footings, the "start of construction" includes the first permanent framing or assembly of a structure or any part thereof on its piling or foundation. For manufactured homes, "start of construction" means the date of placement of the manufactured home to its permanent site.

STRUCTURE. A walled and roofed building, including gas or liquid storage tank, that is principally above ground, as well as a manufactured home. This term also applies to such construction as swimming pools, fences, tennis courts and satellite dishes.

SUBSTANTIAL IMPROVEMENT. A repair, reconstruction or improvement of a structure, the cost of which cumulatively from the date of original certificate of occupancy, 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 purposes 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.

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 ensure safe living conditions; or

2. Any alteration of a structure listed on the National Register of Historic Places or the state Inventory of Historic Places.

VARIANCE. A grant of relief from the requirements of this section, which permits construction in a manner that would otherwise be prohibited by this section.

VIOLATION. A failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required by this code is presumed to be in violation until such documentation is provided.

WATER SURFACE ELEVATION. The height in relation to the National Geodetic Vertical Datum (NGVD) or 1929 or other datum (where specified) of floods of various magnitudes and frequencies in the floodplains of riverine areas.

PP313.6 APPLICATION.

This section shall apply to all areas of special flood hazard within the authorizing jurisdiction.

PP313.7 Basis for Establishing the Areas of Special Flood Hazard.

The areas of special flood hazard identified by the Federal Emergency Management Agency in a scientific and engineering report entitled "The Flood Insurance Study El Paso County, Colorado and Incorporated Areas" with accompanying Flood Insurance Rate Maps and any amendments, is adopted by reference and declared to be a part of this section. The Flood Insurance Study is part of this section.

PP313.8 Compliance.

No structure or land shall hereafter be constructed, located, extended, converted or altered without full compliance with the terms of this section and other applicable regulations.

PP313.9 Penalties for Noncompliance.

Refer to local jurisdictions penalties for noncompliance as stated within jurisdiction

ordinances or regulations.

PP313.10 Abrogation and greater restrictions.

This chapter is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this chapter and another regulation, easement, covenant or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

PP313.11 Interpretation.

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

1. Considered as minimum requirements;
2. Liberally construed in favor of the governing body; and
3. Deemed neither to limit nor repeal any other powers granted under state statutes.

PP313.12 Warning of Disclaimer of Liability.

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This chapter shall not create liability on the part of any local jurisdiction, any officer or employee thereof, or the Federal Emergency Management Agency, for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder.

PP313.13 Establishment of Development Permit.

A development permit shall be obtained before construction or development begins within any area of special flood hazard established in Chapter PP313.7. The permit shall expire at the end of twelve months (12) from the issuance. Application for a development permit shall be made on forms furnished by the Floodplain Administrator/Engineer 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 and control of the foregoing. Specifically, the following information is required and is to be certified by a professional engineer or architect licensed by the state of Colorado. (Elevations may be certified by a professional surveyor licensed by the state of Colorado.):

- 1.1. Elevation in relation to mean sea level or the lowest floor (including basement) of all structures;
- 1.2. Elevation in relation to mean sea level to which any structure has been flood proofed;
- 1.3. Evidence that the flood proofing methods for any nonresidential structure meet the flood proofing criteria in Chapter PP313.18.2; and,
- 1.4. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.

PP313.14 Designation of the Floodplain Administrator / Engineer.

The Floodplain Administrator/Engineer is appointed to administer and implement this chapter by granting or denying development permit applications in accordance with its provisions.

PP313.15 Duties and Responsibilities of the Floodplain Administrator / Engineer.

Duties of the Floodplain Administrator/Engineer shall include, but not be limited to:

PP313.15.1 Permit review.

1. Review all development permits to determine that the permit requirements of this chapter have been satisfied;
2. Review all development permits to determine if the proposed development is located in the flood fringe. If located in the flood fringe,

ensure that the provisions of Chapter PP313.20 are met.

3. Review all development permits to determine if the proposed development is located in the floodway. If located in the floodway, ensure that the encroachment provisions of Chapter PP313.19.1 are met.

PP313.15.2 Use of other flood data. The Floodplain Administrator/Engineer 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 Chapter PP313.18.1, Specific standards -- Residential construction, and Chapter PP313.18.2, Specific Standards -- Nonresidential construction.

PP313.15.3 Obtain and maintain information.

1. Obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures;
2. For all new or substantially improved flood proofed structures:
 - 2.1. Verify and record the actual elevation (in relation to mean sea level), and
 - 2.2. Maintain the flood proofing certifications required in Chapter PP313.13.1.3;
3. Maintain for public inspection all records pertaining to the provisions of this chapter.

PP313.15.4 Alteration of watercourses.

1. Notify adjacent communities and the Colorado Water Conservation Board prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency;
2. Require that maintenance is provided within the altered or

relocated portion of said watercourse so that the flood-carrying capacity is not diminished.

PP313.15.5 Interpretation of flood boundaries.

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 Chapter PP313.16.

PP313.16 Variance Procedure.

PP313.16.1 Appeal Board.

Prior to presentation to the governing body, the Review Board shall hear the appeal for variance and make recommendations to the governing body.

1. The governing body and Review Board shall only approve and recommend variances if all of Section PP313.16 are met.
2. The governing body shall hear and decide appeals to a decision from the Floodplain Administrator/Engineer and requests for variances from the requirements of the chapter.
3. The governing body may review any requirements, decisions, or determinations made by the Floodplain Administrator/Engineer in the enforcement or administration of this chapter.
4. The decision of the governing body may be appealed pursuant to Rule 106 of the Colorado Rules of Civil Procedure. The applicant shall pay the cost of preparing a transcript of the record by a certified court reporter, or other qualified individual, at the time such transcript is requested.
5. In passing upon such applications, the governing body shall consider all technical evaluations, all relevant factors, standards specified in other

sections of the section, and:

- 5.1.** The danger that materials may be swept onto other lands to the injury of others;
- 5.2.** The danger to life and property due to flooding or erosion damage;
- 5.3.** The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
- 5.4.** The importance of the services provided by the proposed facility to the community;
- 5.5.** The necessity to the facility of a waterfront location, where applicable;
- 5.6.** The availability of alternate locations for the proposed use, which are not subject to flooding or erosion damage;
- 5.7.** The compatibility of the proposed use with existing and anticipated development;
- 5.8.** The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
- 5.9.** The safety of access to the property in times of flood for ordinary and emergency vehicles;
- 5.10.** The expected heights, velocity, duration, rate of use, and sediment transport of the flood waters and the effects of wave action, if applicable, and expected at the site; and
- 5.11.** 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, and water systems, and streets and bridges.

- 6.** Upon consideration of the factors of section PP313.16.1.5 and purposes of the section, the **governing body** may attach such conditions to the granting of variances as it deems necessary to further the purposes of this section.
- 7.** The Floodplain Administrator/Engineer shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.

PP313.16.2 Conditions for Variances.

- 1.** Development permits may be issued by the Regional Floodplain Administrator/Engineer for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places, the State Inventory of Historic Places, or part of the local Historic Preservation District or a locally designated historic landmark, without regard to the procedures set forth in the remainder of this subsection. Infill of vacant lots within the Historic Preservation District may be issued variances provided that the provisions of this subsection are met.
- 2.** Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- 3.** Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- 4.** Variances shall only be issued upon:
 - 4.1.** A showing of good and sufficient cause;
 - 4.2.** A determination that failure to grant the variance would

result in exceptional hardship to the applicant; and

- 4.3. 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 or victimization of the public as identified in section PP313.16.1.5, or conflict with existing local laws or ordinances.
5. 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.

PP313.17 GENERAL STANDARDS.

In all areas of special flood hazards, the following standards are required:

PP313.17.1 Base Flood Elevations.

If base flood elevations data have not been provided per Section PP313.7, it is required to be established and provided by a professional engineer or architect licensed by the state of Colorado.

PP313.17.2 Anchoring.

All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure, as required by the **2003 International Building Code**.

PP313.17.3 Construction Materials and Methods.

1. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage, as required by the **2003 International Building Code**.
2. All new construction and substantial improvements shall be constructed

using methods and practices that minimize flood damage, as required by the **2003 International Building Code**.

3. All new mechanical and utility equipment shall be designed and/or elevated to prevent water from entering or accumulating in components, as required by the **2003 International Building Code**.
4. All new construction and substantial improvements with fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a professional engineer or architect licensed by the state of Colorado, or must meet or exceed the minimum criteria as required by the **2003 International Building Code**.

PP313.17.4 Utilities.

1. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;
2. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration into the systems and discharge from the systems into flood waters; and,
3. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

PP313.17.5 Subdivision Proposals.

1. All subdivision proposals shall be consistent with the need to minimize flood damage;
2. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage;
3. All subdivision proposals shall have adequate drainage provided to

reduce exposure to flood damage;
and,

4. FEMA approved base flood elevation data and 100-year floodplain boundaries shall be provided and shown on plat, for subdivision proposals and other proposed developments that contain at least fifty lots or five acres (whichever is less).
5. All buildable lots less than 2.5 acres in size are required to be located entirely outside of the 100-year floodplain. Lands within the 100-year floodplain shall be established in a tract, and require that a responsible party is designated to maintain said tract indefinitely. Buildable lots 2.5 acres and larger are required to the 100-year floodplain contained in a drainage easement in the name of the governing body with the restrictions of "No Build" and "No Storage of any Materials".
6. If subdivision proposals are located within 300 feet of a Zone A floodplain, FEMA approved base flood elevations and boundaries are required to be determined and shown on plat, or provide a Floodplain Certification Letter by a professional engineer or architect licensed by the state of Colorado, stating that "Based on field verified characteristics of the property (TOPO, etc.), the property is reasonably safe from flooding and to the best of the engineers knowledge if the 100-year floodplain were studied it would not enter the property in question".

PP313.17.6 Prohibit all activities in a Special Flood Hazard Area that may be hazardous to public health and water quality; activities include but are not limited to septic systems, landfills, disabled vehicles, etc.

PP313.17.7 All fill placed within the 100-year floodplain must be properly designed and compacted to 95% (ASTM D-698 equivalent or higher standard) with appropriate protection

from erosion and scour. If other than ASTM D-698 is used, it must be certified by a professional engineer licensed by the state of Colorado.

PP313.18 Specific Standards.

In all areas of special flood hazard where base flood elevation data has been provided as set forth in Section PP313.17, basis for establishing the Areas of Special Flood Hazard; the following provisions are required:

PP313.18.1 Residential Construction.

New construction and substantial improvement of any residential structure shall have the lowest floor, including basement **together with attendant utility and sanitary facilities**, elevated one (1) foot or more above base flood elevation.

PP313.18.2 Nonresidential Construction.

New construction and substantial improvement of any commercial, industrial, or other nonresidential structure shall either have the lowest floor, including basement **together with attendant utility and sanitary facilities**, elevated to one (1) foot or more above the level of the base flood elevation; together with attendant utility and sanitary facilities, or shall:

1. Be dry flood proofed as required by the **2003 International Building Code** to a point of one (1) foot above 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 professional engineer or architect licensed by the state of Colorado, verifying the standards of this subsection are satisfied after construction is complete and **prior to the Certificate of Occupancy being issued**. Such certifications shall be provided to the Floodplain Administrator/Engineer as set forth in Section PP313.15.2.

PP313.18.3 Conversions to habitable space shall be classified as new construction and shall be constructed to meet the floodplain, building and any other relevant codes at the time of conversion.

PP313.18.4 Openings in Enclosures below the Lowest Floor.

1. Crawlspace are prohibited in residential construction below the base flood elevation.
2. For all other new construction and substantial improvements, fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a licensed professional engineer or architect or must meet or exceed the following criteria:
3. 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;
4. The bottom of all openings shall be no higher than one foot above grade;
5. Openings may be equipped with screens, louvers, or other coverings or devices, provided that they permit the automatic entry and exit of floodwaters.

PP313.18.5 Manufactured Homes.

1. Manufactured homes shall be anchored in accordance with Section PP313.17.2 and installed in accordance with FEMA 85.
2. All manufactured homes or those to be substantially improved shall conform to the following requirements:
 - 2.1. Require that manufactured homes that are placed or

substantially improved on a site outside of a manufactured home park or subdivision, or in an expansion to an existing manufactured home park or subdivision, or in an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as the result of a flood, be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated one (1) foot or more above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement.

- 2.2. Require that manufactured homes to be placed or substantially improved on sites in existing manufactured home parks or subdivisions that are not subject to the provisions of subsection 2.1 of this section be elevated so that the lowest floor of the manufactured home is one (1) foot or more above the base flood elevation.
- 2.3. Require that manufactured homes that are to be replaced on sites within existing manufactured home parks or subdivisions that are not subject to the provisions of subsection 2.1 of this section be replaced only with in-kind replacements.

PP313.18.6 Recreational Vehicles.

1. A recreational vehicle shall meet the permit requirements and elevation and anchoring requirements of this code unless:
 - 1.1. It is on the site for fewer than one hundred eighty

(180) consecutive days.

1.2. It is fully licensed and ready for highway use.

1.3. If the above two conditions are not met, it will meet the requirements of subsection PP313.18.5.

PP313.18.7 New critical facilities are prohibited within the 100-year floodplain unless they are elevated or flood proofed two (2) feet or more above the 100-year flood elevation.

PP313.19 Floodways.

Located within areas of special flood hazard established in Section PP313.7 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters, which carry debris, potential projectiles, and erosion potential, the following provisions apply:

PP313.19.1 Prohibited encroachments, including fill, and other development unless certification by a professional engineer or architect licensed by the state of Colorado is provided demonstrating that encroachments shall not result in any increase in 100-year flood height, 100-year flood discharge or 100-year floodplain width.

PP313.19.2 All substantial improvements shall comply with all applicable flood hazard reduction provisions of Chapters PP313.17 through PP313.20.

PP313.19.3 Prohibit the placement of any mobile homes except in an existing mobile home park or existing mobile home subdivision.

PP313.19.4 When a proposed floodway improvement will cause an increase in the base flood elevation (BFE), the following conditions must be met as a condition of approval:

1. No existing insurable structure(s) shall be located in the impacted area. Applicant shall produce proof of ownership prior to

issuance of a floodplain permit.

2. No existing structure(s) located outside the present designated 100-year floodplain area shall be placed inside the 100-year floodplain as a result of the proposed floodway development, unless the applicant shows proof of raising or removing same.

3. The applicant shall demonstrate that all reasonable and practicable engineering alternatives that would not result in a rise in the base flood elevation have been considered and determined to be impractical.

4. The project must demonstrate a net reduction in flood loss potential and/or result in a net public benefit to the community as a whole.

5. A written statement from each owner of property impacted by the proposed development shall be submitted, stating the potential impacts on said property, acceptance of those impacts by the property owner, and that the property owner agrees to hold the governing body, as the case may be, and the Federal Emergency Management Agency harmless for any future flood losses attributable in whole or in part to the increased flooding.

6. Applicant shall provide documentation of individual notice to all impacted property owners, explaining the impact of the proposed action on their property.

Documentation shall include, as a minimum, evidence of service by certified mail, return receipt requested, or written evidence of service by sheriff or other process server. When deemed necessary by the governing body, the applicant may be required to execute indemnification agreements by which the governing body, Federal Emergency Management Agency, or individual property owners are held harmless for any future flood losses attributable in whole or in part to the increased flooding.

7. All impacted governmental agencies must be notified of the proposed increase and given an opportunity to comment.
8. The applicant shall apply for and receive a Conditional Letter of Map Revision (CLOMR) from the Federal Emergency Management Agency prior to issuance of a floodplain development permit. The applicant shall provide written acceptance of all conditions placed on the project by Federal Emergency Management Agency. A financial guarantee may be required to ensure completion of all proposed improvements.
9. No building shall be occupied for its intended use until all conditions have been met and the applicant has obtained a final Letter of Map Revision (LOMR) from the Federal Emergency Management Agency.
10. The applicant shall provide written assurance that any

altered watercourse shall be maintained as appropriate.

PP313.20 Flood Fringe.

Located within areas of flood hazard established in Section PP313.7 of this article are areas identified as flood fringe areas. Since flood fringe areas are important to floodplain management for the reason that they provide natural storage of floodwaters, control drainage patterns, and are an integral part of the floodplain system, the following provisions, in addition to any other applicable requirements of this section, shall apply:

PP313.20.1 Provide that all new construction and substantial improvements are elevated on adequately anchored pilings or columns, and securely anchored to such piles or columns so that the lowest floor, together with attendant utility and sanitary facilities, (excluding the pilings or columns) is elevated to one (1) foot or more above the base flood level;

PP313.20.2 A professional engineer licensed by the state of Colorado certifies that the structure is securely anchored to adequately anchored pilings or columns in order to withstand the velocity of floodwaters prior to Certificate of Occupancy;

PP313.20.3 Provide that all new construction and substantial improvements have the space below the lowest floor free of obstructions, or are constructed with breakaway walls intended to collapse under stress without jeopardizing the structural support of the structure so that the impact on the structure is minimized. Such temporary enclosed space shall not be used for human habitation or storage;

PP313.20.4 Prohibit all new construction and substantial improvements of residential structures unless the lowest floor (including basement) together with attendant utility and sanitary facilities are elevated one (1) foot or more above the base flood level;

PP313.20.5 Prohibit all new construction and substantial improvements of nonresidential structures, unless the lowest floor

(including basement) together with attendant utility and sanitary facilities, elevated or dry flood proofed one (1) foot or more above the base flood level.