



Land Use

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BOULDER COUNTY BOARD OF COUNTY COMMISSIONERS

May 29, 2014 – 9:00 A.M.

Hearing Room, Third Floor
Boulder County Courthouse

PUBLIC HEARING

Docket DC-14-0002: Land Use Code Text Amendments related to the Floodplain Regulations, Articles 4 and 18

Request: Proposed Boulder County Land Use Code Text Amendments related to the Floodplain Regulations, Articles 4 and 18, Concerning Cumulative Retroactive Application of "Substantial Improvement" Definition and Related Amendments

Staff Planners: Varda Blum, Floodplain Administrator – Transportation Department;
Kimberly Sanchez, Planning Division Manager – Land Use Department

SUMMARY

Staff is proposing text amendments to Articles 18 and 4-400 of the Land Use Code to address challenges experienced after the September 2013 Flood event in relation to the cumulative provision of the "substantial improvement" definition, which requires that substantial improvements to a structure in the FO District be calculated cumulatively back to November 1, 1991. The proposed amendments are a discrete set of changes and will not include changes to the floodplain maps-- including boundaries and base flood elevations. Any changes to those regulations will be brought forward for consideration when information is available to make such changes.

The proposed amendments to the floodplain regulations include the following:

- some technical updating-type changes to the floodproofing section in 4-405
- an amendment to the requirement for floodplain development permits in 4-407 (adding in exemptions for minor building permit work)
- "cleanup" of the nonconforming use/structure provisions in 4-408 (to track with the "substantial improvement" changes and to overall make this section clearer)
- companion change to the "market value" definition in 18-178A (making clear that Assessor's actual value can be used in lieu of an appraisal)
- changes to the definition/retroactive cumulative calculation for determining "substantial improvement" in 18-206 to amend the definition to make it cumulative back to the 2013 Flood event.

BACKGROUND AND DISCUSSION

Following the major Front Range Flood event of September 2013, County staff has been intensively engaged in applying the Land Use Code's floodplain development permitting requirements in Article 4-400 of the Code governing the Floodplain Overlay ("FO") District. This effort has revealed certain difficulties in administering Article 4-400 and its companion definitions in Article 18, which the Board of County Commissioners last amended in Docket DC-12-0005 (adopted by Resolution 2012-123 effective November 13, 2012), and prior to that in Docket DC-09-001 (adopted by Resolution 2009-72 effective May 26, 2009). One major challenge has been applying the cumulative provision of the "substantial improvement" definition, which requires that substantial improvements to a structure in the FO District be calculated cumulatively back to November 1, 1991– the time when Boulder County joined FEMA's floodplain management Community Rating System ("CRS").

The Community Rating System (CRS) is a voluntary program for National Flood Insurance Program (NFIP) participating communities. The goals of the CRS are to reduce flood damages to insurable property, strengthen and support the insurance aspects of the NFIP, and encourage a comprehensive approach to floodplain management. The CRS has been developed to provide incentives in the form of premium discounts for communities to go beyond the minimum floodplain management requirements to develop extra measures to provide protection from flooding.¹

The cumulative provision is one tool that is recognized by the CRS to help go beyond minimum floodplain management requirements. Staff has found that this cumulative requirement has been difficult to administer, since it required tracking improvements back 18 years prior to the amendment's adoption (2009). The prior building permit data was not maintained in a manner that contemplated a cumulative improvements' calculation throughout a structure's lifetime from late 1991 on. Staff did not discover these data shortcomings until the September 2013 flood event, which has obviously led to a much higher volume of floodplain development permit applications being sought to repair or rebuild damaged and destroyed structures.

Staff thus is proposing to amend the definition of "substantial improvement" to make it cumulative back to the 2013 Flood event rather than the November 1, 1991 date. This will assure that accurate building permit data (costs of improvements and the market value of the structures being improved/repaired) will be kept comprehensively and accurately from this event on.

Staff also is proposing certain companion amendments to track the re-clocked "substantial improvement" definition, and to reflect how the substantial improvement/damage calculation has been done under FEMA's guidance following the 2013 Flood. For example, because current FEMA guidance uses the ratio of **cost** (not the market value) of the proposed improvement, to the overall structure's market value, this docket includes an amendment to delete the current requirement that the **market value** of the improvement be calculated. This calculation can be difficult from an appraisal point of view, especially when the nature or variety of the proposed improvements make market valuation hard to ascertain; in addition, requiring only improvement costs to be shown is simpler for property owners/permit applicants, who can have their contractor draw up a list of improvement costs as opposed to hiring an appraiser to do an improvement market value analysis.

Other companion amendments in the docket involve simplifying Article 4-408 (that governs nonconforming structures and uses in the FO District) with respect to the amended "substantial improvement" definition in Article 18-206.

¹ http://www.fema.gov/media-library-data/45d30e14bdec841d92462f9424567b73/19_crs_508_oct2013.pdf

Finally, a minor change is proposed to Section 4-405.C. of the FO District's floodproofing requirements, to reflect current administrative practice regarding flood elevation requirements for replacing heating, water, and other structure utility systems that have been damaged or destroyed by causes outside the owner's control, such as the September, 2013 Flood: under this proposal, replacement appliances/systems would not need to be flood-elevated except when they are part of a restoration project qualifying as a "substantial improvement."

IMPACT OF PROPOSED CHANGES ON COMMUNITY RATING SYSTEM ("CRS")

A community's optional participation in the CRS program of the National Flood Insurance Program (NFIP) can result in flood insurance premium discounts for its residents in the 100-year floodplain. The percent discount depends on the community's "CRS class" – a number from 1 to 10 that reflects the activities that a community undertakes that go above and beyond those activities necessary for a basic level of participation in the NFIP. A community that has just joined the CRS is a class 10, and for every 500 points worth of activities, the community drops a class, and receives an additional 5% discount on insurance rates.

Boulder County is currently a Class 7 community, with 1,767 points, and receives a 15% discount on flood insurance premiums. Class 7 ranges from 1,500 to 1,999 points. Boulder County receives 30 of its 1,767 points for including in its regulations a requirement for calculation of cumulative substantial improvements. By implementing the proposed code changes that reset the clock for the beginning of cumulative improvement tracking to September 11, 2013, all 30 of these points will be lost. Half of the 30 points will be regained in 2018, and the full 30 points will be regained in 2023. This points impact is relatively small and unlikely to have much effect on our CRS class rating.

PUBLIC COMMENT

Staff sent a referral to, and met with, representatives from the Federal Emergency Management Agency (FEMA) and Colorado Water Conservation Board (CWCB) to discuss the proposed regulations on March 24, 2014. Neither agency had conflict with the proposed regulations as drafted and supported the changes.

The proposed changes were first emailed to the Land Use Code and flood listservs on April 9, 2014. Information related to this docket was also posted on the County's website:
www.bouldercounty.org/property/build/pages/lucodeupdatedc140002.aspx

PLANNING COMMISSION

Planning Commission held a public hearing on this docket on May 21, 2014 and voted unanimously (5-0) to approve and recommend approval of the docket to the Board of County Commissioners.

CRITERIA REVIEW

No text amendment shall be adopted [by the Board of County Commissioners] unless the Board has Determined that:

1. the existing text is in need of the amendment;
2. the amendment is not contrary to the intent and purpose of this Code; and
3. the amendment is in accordance with the *Boulder County Comprehensive Plan*

The proposed changes related to the cumulative provision of the "substantial improvement" definition were found to be necessary given the difficulty of administering this provision due to data shortcomings. Resetting the clock to make the provision cumulative back to the 2013 Flood event rather than the November 1, 1991 date will assure that accurate building permit data will be kept comprehensively and accurately from this event on.

Staff finds that the need for the amendments has been demonstrated, the amendments are not contrary to the intent and purpose of the Code, and the amendments do not conflict with the Boulder County Comprehensive Plan; consequently, the criteria for text amendments in Article 16-100.B. of the Land Use Code are met.

RECOMMENDATION

STAFF RECOMMENDS THAT THE BOARD OF COUNTY COMMISSIONERS APPROVE Docket DC-14-0002: Land Use Code Text Amendments related to the Floodplain Regulations, Articles 4 and 18 Concerning Cumulative Retroactive Application of "Substantial Improvement" Definition and Related Amendments.

DOCKET DC-14-0002: PROPOSED TEXT AMENDMENTS TO ARTICLES 4 AND 18 OF THE BOULDER COUNTY LAND USE CODE, CONCERNING THE CUMULATIVE RETROACTIVE APPLICATION OF “SUBSTANTIAL IMPROVEMENT” DEFINITION AND RELATED AMENDMENTS

4-400 Floodplain Overlay District *[no changes proposed]*

Purpose: To provide land use controls necessary to qualify unincorporated areas of Boulder County for flood insurance under requirements of the National Flood Insurance Act of 1968, as amended, to protect human life and health; to avoid increasing flood levels or flood hazards or creating new flood hazard areas; to minimize public and private losses due to flooding; to reduce the need for expenditures of public money for flood control projects; to reduce the need for rescue and relief efforts associated with flooding; and to prevent or minimize damage to public facilities and utilities; and to aid the public in determining if a property is in a potential flood area.

4-401 Application and Liability *[no changes proposed]*

4-402 Designation of Official Maps *[no changes proposed]*

4-403 Floodway *[no changes proposed]*

4-404 Floodfringe *[no changes proposed]*

4-405 Floodproofing

A. All insubstantial improvements where the lowest floor of the improvement is not above the flood protection elevation shall be floodproofed as follows:

1. The improvement, including attendant and sanitary facilities, be designed so that the structure is watertight with walls substantially impermeable to the passage of water below the flood protection elevation; the structure is anchored to prevent flotation, collapse, or lateral movement of the structure; and the structure is constructed with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
2. The improvement be certified by a Colorado Registered Professional Engineer that the floodproofing methods are adequate to withstand the flood depths, pressures, velocities, impact and uplift forces, and other factors associated with the base flood. Such certification shall also state the specific elevation (in relation to mean sea level) to which the improvements are floodproofed.

B. All new construction and substantial improvements shall be floodproofed as follows:

1. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure and capable of resisting the hydrostatic and hydrodynamic loads.
2. All new construction and substantial improvements of any building or other structure shall have the lowest floor (including basements and porches) elevated to or above the flood protection elevation, provided that:
 - a. Fully enclosed areas below the lowest floor that are subject to flooding and used solely for parking of vehicles, building access, or storage of materials in an area other than a basement shall be designed to equalize the hydrostatic pressure flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs

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for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:

(i) 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;

(ii) The bottom of all openings shall be no higher than one foot above grade; and

(iii) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

b. Accessory structures (detached garages, sheds, and barns) and agricultural structures (including grain bins, corn cribs, and barns) may be constructed at grade and wet-floodproofed by meeting the provisions for fully enclosed areas subject to flooding and subject to the following conditions:

(i) The building must be used only for the parking of vehicles or storage of tools, materials and equipment;

(ii) Agricultural structures (including grain bins, corn cribs, and barns) must be limited in use to agricultural purposes;

(iii) The structure shall not be designed or used for human habitation;

(iv) The accessory structure must represent a maximum investment of less than 10% of the value of the principal structure on the property, or a maximum floor area of 600 square feet;

(v) The structure must have low flood damage potential with respect to both the structure and its contents; and

(vi) Permanently affixed sanitary facilities and appliances (such as furnaces, heaters, washers, dryers, etc.) are prohibited.

c. Accessory structures that do not have at least two rigid walls (including carports, gazebos, and picnic pavilions) may be constructed at grade and do not require floodproofing.

d. Other accessory structures that do not meet the above requirements may be constructed at-grade and will only be permitted by a variance to this section, provided that:

(i) Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters; and

(ii) Service facilities such as electrical and heating equipment shall be elevated or floodproofed.

3. All new construction and substantial improvements on a property removed from the floodplain by the issuance of a FEMA Letter of Map Revision Based on Fill (LOMR-F) shall have the lowest floor elevated to or above the flood protection elevation that existed prior to the placement of fill.

4. All new construction and substantial improvements of any building or other structure, within areas of shallow flooding, as specifically defined by the Federal Emergency Management Agency, shall have the lowest floor (including basements, garages, carports, and porches) elevated to or above the flood protection elevation.

a. For shallow flooding areas, the County Engineer may reduce the elevation requirement, upon evaluation of the floodplain on and around the proposed development.

b. Such a reduction shall have the lowest floor elevated to one foot above the base flood elevation, or the highest established adjacent grade plus at least one additional foot above the depth of flooding number specified in feet on the Flood Insurance Rate Maps, or at least three feet above the highest established adjacent grade if no depth number is specified.

c. Drainage improvements within a shallow flooding area, as specifically defined by the Federal Emergency Management Agency shall be constructed to allow floodwaters to flow around the perimeter of the structure in a controlled manner, without adversely impacting adjacent properties.

5. New construction and substantial improvement of any below-grade crawlspace shall:

a. Have the interior grade elevation, that is below base flood elevation, no lower than two feet below the lowest adjacent grade;

b. Have the height of the below-grade crawlspace measured from the interior grade of the crawlspace to the top of the foundation wall, not to exceed four feet at any point;

c. Have an adequate drainage system that allows floodwaters to drain from the interior area of the crawlspace following a flood;

d. Meet the provisions of Sections 4-405(B)(1), Anchoring; 4-405(~~C~~)(4)(B)(2)(a), Openings in Enclosures Below the Lowest Floor; and 4-405(~~B~~C), Other Floodproofing Requirements.

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6. Unsubstantial improvements, of any building or other structure, shall either have the lowest floor of the improvement elevated to or above the flood protection elevation or shall be designed and constructed according to the requirements of Paragraph 4-405(A).

7. As built lowest floor elevations (in relation to ~~mean-sea-level~~the 1988 North American Vertical Datum, or NAV88) for all new construction, substantial improvements, other improvements, or for new manufactured home stands, shall be certified by a Colorado Registered Professional Engineer or Colorado Registered Professional Land Surveyor. Elevation Certificates shall be submitted to the Building Division Inspector ~~or~~and County Engineer. Failure to submit an Elevation Certificate will result in suspension of work until proper certification is provided. To ensure compliance with floodproofing requirements during and after construction, ~~C~~ompleted Elevation Certificates shall be submitted at the following times:

a. For slab on grade foundation, a completed Elevation Certificate or a registered surveyor's certified statement (verifying the elevation) shall be submitted when foundation forms are completed and prior to final pour of foundation.

b. For buildings on elevated foundations, a completed Elevation Certificate or a registered surveyor's certified statement (verifying the elevation) shall be submitted when the foundation is completed and prior to rough framing.

c. For structures to be floodproofed, a completed ~~F~~floodproofing ~~C~~ertificate shall be submitted when the floodproofing measures ~~is~~are completed. Accepted forms include the FEMA Floodproofing Certificate for Non-Residential Structures.

d. For ~~completed~~ structures that have achieved finished construction, a completed Elevation Certificate shall be submitted prior to the ~~i~~ssuance of Certificate of Occupancy.

8. The storage or processing of materials that are buoyant, flammable, explosive, or in times of flooding could be injurious to human, animal, or plant life, shall be at or above the flood protection elevation.

9. Concerning manufactured home parks, for new parks commenced on or after February 1, 1979; expansions to existing parks; existing parks where the value of the repair, reconstruction, or improvement of the streets, utilities, and pads equals or exceeds 50 percent of the value of the streets, utilities and pads before the repair, reconstruction or improvement has commenced; an existing park on which a manufactured home has incurred substantial damage as the result of a flood; manufactured homes to be placed or substantially improved on-sites in existing parks; and for manufactured homes not placed in a park:

a. Stands or lots shall be elevated on compacted fill or on pilings so that the lowest floor of the manufactured home will be at or above the flood protection elevation. For homes placed on pilings:

(i) lots shall be large enough to permit steps;

(ii) piling foundations shall be placed in a stable soil no more than ten feet apart; and

(iii) reinforcements shall be provided for pilings more than six feet above the ground level.

b. Adequate surface drainage shall be provided.

c. New manufactured homes shall be anchored by providing over-the-top and frame ties to ground anchors as well as the following:

(i) over-the-top ties at each of the four corners, with two additional ties per side at intermediate locations, with the exception of manufactured homes less than 50 feet long which require only one additional tie per side;

(ii) frame ties at each corner with five additional ties per side at intermediate points, with the exception of manufactured homes less than 50 feet long which require only four additional ties per side;

(iii) all components of a manufactured home anchoring system shall be capable of carrying a force of 4800 pounds; and

(iv) any additions to the manufactured home be similarly anchored.

10. Concerning recreational vehicles, at least one of the following provisions shall be met:

a. The recreational vehicle shall be on the site for fewer than 180 consecutive days.

b. The recreational vehicle shall be fully licensed and ready for highway use.

c. The recreational vehicle shall meet the permit requirements and elevation and anchoring requirements for manufactured homes, in accordance with Section 4-405(B)(9) of this section.

C. Other Floodproofing Requirements

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1. New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage up to the flood protection elevation.
2. New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters.
3. Cutoff valves or the elimination of gravity drains below flood protection elevations in new and replacement sanitation or sewerage systems shall be used to minimize or eliminate infiltration of and discharge into flood waters.
4. The location of new and replacement on-site waste disposal systems shall be done in such a manner to avoid impairment to or contamination from the systems during flooding.
5. New and replacement electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities shall be located at or above the flood protection elevation, unless exempted from floodplain development permit requirements under Section 4-407.F., below.
6. New buildings or other structures shall be placed with their longitudinal axes parallel to the predicted direction of flow of flood waters or be placed so that their longitudinal axes are on lines, parallel to those of adjoining structures, to the extent consistent with other provisions of this Code. This is intended to minimize the obstruction to flow caused by a building or structure.
7. For all new subdivision proposals and other developments, including proposals for manufactured home parks and subdivisions, greater than 50 lots or 5 acres, whichever is lesser, located within a designated A Zone that does not include a water surface elevation, shall include a base flood elevation as part of the proposal.

4-406 Responsibilities of the County Engineer *[no changes proposed]*

4-407 Floodplain Development Permit

- A. All building permit applications shall be reviewed by the Building Division to determine whether the proposed development may be within the floodplain, or is exempted from floodplain development permit requirements under Section 4-407.F., below. If it appears to the Building Division that any proposed development may be within the floodplain and is not exempted from floodplain development permit requirements under Section 4-407.F., then the Building Division shall refer the application to the County Engineer for a determination on whether a floodplain development permit is required. The Building Division shall not issue a building permit when floodplain issues have been raised unless the County Engineer has issued a floodplain development permit or determined that no such permit is required.
- B. Applications for floodplain development permits are to be submitted to the County Engineer and shall include the following information as applicable:
1. A completed application form with all necessary information completed.
 2. a plan at a scale of 1' = 200' or larger, stamped by an engineer registered by the State of Colorado, which includes:
 - a. the site location;
 - b. a legal description of parcel;
 - c. base flood limits and water surface elevations;
 - d. floodway limits;
 - e. channel of watercourse;
 - f. existing and proposed contours or elevations at 2' intervals;
 - g. existing and proposed structures, with the lowest floor elevations (including basements and garages) of each structure;
 - h. proposed elevations to which structures will be floodproofed (if applicable);
 - i. location and elevations of existing streets, water supply, and sanitation facilities;
 - j. limits and total land area of all existing and proposed impervious surfaces, including structures; and

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- k. existing water supply ditches, irrigation ditches and laterals.
- 3. A typical valley cross-section showing:
 - a. the channel of the watercourse;
 - b. limits of floodplain adjoining each side of channel;
 - c. cross-section area to be occupied by the proposed development;
 - d. existing and proposed base flood water surface elevations;
- 4. Specifications for construction and materials of buildings, floodproofing, filling, dredging, grading, channel improvements, storage of materials, water supply, and sanitation facilities as applicable;
- 5. Description of the extent to which any water course will be altered or relocated as a result of the proposed development;
- 6. For development proposed within a floodway the following information is required:
 - a. A title report prepared by a licensed title insurance or abstract company containing the legal description of the subject property and identifying, listing and certifying the following:
 - (i) a listing of all owners of record of the subject property;
 - (ii) all owners and their addresses of real property adjacent to the subject property; and
 - (iii) all owners of any surface, subsurface, or above surface estates, rights, or interests in the land adjacent to the subject property (including easements and interests in the oil, gas, mineral or water estate) or any other real property associated therewith; the nature and description of each such estate, right, or interest; and the addresses of all owners.
 - 7. A floodway analysis by a Colorado Registered Professional Engineer using methodology acceptable to the Federal Emergency Management Agency and according to the following guidelines:
 - a. If a detailed hydraulic floodway analysis has not been performed, the responsibility for determining the floodway boundary rests with the floodplain development permit applicant. The need for a detailed hydraulic floodway analysis shall be the decision of the County Engineer.
 - b. The detailed hydraulic floodway analysis shall be based on the identical hydraulic model which was used to develop the engineering study currently adopted by the Board of County Commissioners. The applicant should obtain, through the County Engineer, a copy of the input data and card deck representing the HEC- 2 computer model used for their effective flood hazard study.
 - c. The model must then be updated to existing hydraulic conditions to determine what surcharge levels have already been achieved by encroachments since the floodplain was established.
 - (i) Alternate floodway configurations may then be analyzed based on acceptable Encroachment Methods as outlined in the current 'U.S. Army Corps of Engineers HEC-2 Water Surface Profiles Users Manual' and submitted to the County Engineer for review and approval.
 - (ii) Approval will be based on demonstration that the cumulative effects of the proposed encroachment, plus the effects of encroachments since the original flood hazard area was established, does not cause more than a one foot rise in the established base flood water surface elevation.
 - (iii) At the County Engineer's discretion, where a regulatory floodway has been designated, it may not be necessary to determine the cumulative effects of existing encroachments.
 - d. Floodway boundary configurations will be examined and approved by the County Engineer. The following specific information, for the stream reach 1000 feet upstream and 1000 feet downstream from the proposed encroachment, must be submitted:
 - (i) A copy of the printout for the hydraulic computer model representing the unencroached base flood profile run for conditions existing at the time the currently effective floodplain was developed. The printout must include the full input and output listing.
 - (ii) A copy of the printout from the hydraulic computer model representing the floodway run for the proposed floodway configuration and including encroachments and other hydraulic changes within the floodplain since the currently effective floodplain was established. The printout must include the full input and output listing with all input changes from the original model highlighted.
 - (iii) A copy of the floodway data table representing data for the proposed floodway configuration.
 - (iv) A copy of the currently effective official engineering study showing the existing floodplain and the proposed floodway configuration.
 - (v) Certification from a Colorado Registered Professional Engineer that the proposed floodway

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configuration, in combination with current floodplain hydraulic conditions, meets established requirements when evaluated against flood elevations established for unencroached conditions when the original floodplain study was completed.

8. An engineering report addressing those standards set forth in Paragraph 4-407(B) of this Section.

C. Standards for Permit Review

1. In reviewing an application for a floodplain development permit, the County Engineer shall determine the specific flood hazard at the site and shall evaluate the suitability of the proposed use in relation to the flood hazard.

2. In addition, the County Engineer shall consider the following factors in reviewing permit applications:

- a. the effect of the proposal upon the efficiency or capacity of the floodway;
 - b. the effect on lands upstream, downstream and in the immediate vicinity of the development including the potential danger to persons;
 - c. the effect of the proposal on the flood profile and flood heights;
 - d. the effect of the proposal on any tributaries to the main stream, drainage ditches, water supply and irrigation ditches, or any other drainage or irrigation facilities or systems;
 - e. the relationship of the proposed development to the flood management program for the area in question, including whether additional public expenditures for flood protection or prevention will be necessary;
 - f. whether the applicant would obtain an undue advantage compared to later applicants who might request a permit;
 - g. if the proposed use is for human occupancy;
 - h. the probability that materials may be swept onto other lands or downstream to the injury of others;
 - i. the susceptibility of the proposed facility and its contents to flood damage;
 - j. the safety of access to the property in times of flood for ordinary and emergency vehicles;
 - k. whether any proposed changes in a watercourse will have an environmental effect on the watercourse, including streambanks and streamside trees and vegetation;
 - l. the relationship of the proposed development to the Boulder County Comprehensive Plan and any applicable floodplain management programs;
 - m. whether the cumulative effect of the proposed development with other existing and anticipated uses will increase flood heights more than one foot; and
 - n. if the expected heights and velocities of the floodwaters expected at the site will adversely affect the development of surrounding property.
3. If the County Engineer determines that the application for floodplain development permit meets the purposes and requirements of this Section, the floodplain development permit shall be issued, with the attachment of any conditions as deemed necessary to further the purposes of this Section. Such conditions may include, but are not limited to, specifications for modification of waste disposal methods and facilities, landscaping, periods of operation, operational controls, sureties, deed restriction, and adequate floodproofing.

D. Board of Commissioners Review

1. In the event that the County Engineer determines that a floodplain development permit application for any development in the floodway meets the applicable standards for approval, the permit will not be effective until 14 days after the date of permit issuance.

a. At the time of permit approval, the County Engineer shall do the following:

- (i) within seven days, publish a public notice of the proposed use and the permit issuance in a newspaper of general circulation in Boulder County;
- (ii) shall transmit a copy of the notice to property owners adjacent to the property in question; and
- (iii) forward to the Board of County Commissioners a written statement which shall include (1) the location and a description of the proposed use under the permit; (2) the reasons for approval of the permit; and (3) any conditions the County Engineer placed on the issuance of the permit.

b. Upon receiving the Director's statement, and before the effective date of the permit, the Board may call the permit up for review at a public hearing.

(i) This hearing shall constitute a revocation of the permit.

(ii) At the public hearing, the Board shall consider evidence related to the permit which may be

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presented by the County Engineer, the applicant, or interested members of the public.

(iii) The Board shall determine whether the application meets the requirements of this article, and if it so finds, shall issue the permit, with such conditions as the deemed appropriate.

E. Permit Expiration, Certification Enforcement

1. The County Building Official shall not issue any building permit for, nor shall the Director issue any use permit involving any building, structure, or other development within the FO district unless a floodplain development permit has been granted for the development.

2. A floodplain development permit shall expire two years after the date of issuance if the permittee has not commenced construction under the permit.

3. Whenever the County Engineer has personal knowledge of any violation of the provisions of this section, written notice shall be given to the violator to correct such violation within thirty days after the date of such notice.

a. Should the violator fail to correct the violation within this 30 day period, the County Engineer may request that the sheriff of the County issue a summons and complaint to the violator, stating the nature of the violation with sufficient particularity to give notice of said charge to the violator.

b. The summons and complaint shall require that the violator appear in County Court at a definite time and place stated therein to answer and defend the charge.

F. Minor Building Permits Exempted from Floodplain Development Permit Requirements

1. The following types of building permits will not require a floodplain development permit unless they (alone, or in conjunction with a larger project of which they are an actual or logical part) increase the structure's floor area or footprint, cause a floodplain encroachment, under Section 18-159, or constitute a substantial improvement under Section 18-206:

a. Electrical repairs;

b. Furnace repairs or replacements;

c. Water heaters, boilers, and evaporative cooler repairs or replacements;

d. Air conditioner repairs or replacements;

e. Re-roofs;

f. Re-siding;

g. Insulation or simple weatherization or energy efficiency upgrades;

h. Roof-mounted or existing structure-mounted solar collectors;

i. Window and door replacements;

j. Renovation or remodel projects that cost less than \$750.

2. The cost of any such exempted work shall not be included in the cumulative calculation required under Article 18-206 (definition of substantial improvement), unless part of a substantial damage calculation or estimate.

4-408 Nonconforming Structures and Uses

A. Existing Structures and Uses

1. The use of any structure on land within the FO district that was lawfully established before the adoption or amendment of this ~~Section~~Article 4-400, but that does not conform to the requirements of this ~~Section~~Article may be continued subject to the following conditions:

a. No such building structure ~~or use~~ may be expanded ~~or enlarged, improved, repaired, restored, or replaced~~ unless the ~~expansion or enlargement itself~~work complies with the floodproofing provisions of ~~Paragraph~~Section 4-405 of this ~~Section~~Article.

~~(i) If the work does not constitute a substantial improvement, then~~

~~(ii) When a building or other structure has been damaged so that the market value of such repair or replacement does not exceed 50 percent of the market value before the damage occurred, the repair~~

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~~or replacement shall not be deemed a substantial improvement and~~ only the constructed or reconstructed portion shall ~~be constructed as required~~ have to comply within Paragraph ~~Section~~ 4-405 of this ~~Section~~ Article.
~~(ii) If the work qualifies as a substantial improvement, then~~
~~(ii) When a building or other structure has been damaged so that the market value of such repair or replacement exceeds 50 percent of the market value before the damage occurred, the repair or replacement shall be deemed a substantial improvement and the entire structure shall be protected as required~~ with Paragraph in Section 4-405, of this Section

~~2.b.~~ A ~~substantial improvement to any building or other structure or~~ change in the use of a building or structure, as defined in Article 18-206, will require that the entire building or structure ~~conform to the requirements of this Article 4-400~~ to be protected pursuant to Section 4-405, unless a waiver is granted by the County Engineer.

~~a.~~ Floodproofing requirements may be waived for a change in use if the County Engineer determines there is no potential for any significant conflict with this Article 4-400 and the following circumstances are met:

(i) The existing structure is located outside of the floodway;

(ii) The existing structure is determined to be structurally sound by an engineer licensed in the state of Colorado;

(iii) The cost of compliance to this Article 4-400 is less than 50% of the current value of the structure; and

(iv) The proposed change in use is to a use that reduces, minimizes, or otherwise creates a less intensive use or decreases human occupation.

~~b.~~ ~~The floodproofing requirements may not be waived for any substantial improvement that involves either:~~

~~(i) Any structure located within the floodway; or~~

~~(ii) Any structure that has been damage by a flood two times in the past 10 years, where the cost of repairing the flood damage, on the average, equaled or exceeded 25 percent of the structure's market value at the time of each flood.~~

~~32.~~ No person shall store or process materials that are buoyant, flammable, hazardous, toxic or explosive, or that in times of flooding could be harmful to human, animal, or plant life except at or above the flood protection elevation.

~~B.~~ If a conflict arises between the requirements of this Section and the provisions of Section 4-1000, Nonconforming Structures and Uses, the requirements of this Section shall control.

4-409 Appeals and Variances [no changes proposed]

[Floodplain-Related Definitions in Article 18:]

18-178A Market Value

Market value is the price which a willing buyer would pay a willing seller under normal economic conditions based on a representative body of comparable sales at or about the date for which the market value is sought to be determined, as calculated by an independent appraisal performed by a professional appraiser, or by other accepted authoritative source such as the County Assessor's Office. In lieu of an independent appraisal, the market value of the structure as determined from the records of the County Assessor may be used.

18-205A Substantial Damage

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Proposed Amendments

| 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 damage occurred.

18-206 Substantial Improvement

A. Any cumulative ~~combination of~~ repairs, reconstruction, ~~rehabilitation, expansion,~~ or improvement of a building or other structure, the ~~market value cost~~ of which equals or exceeds 50 percent of the market value of the structure either before the improvement or repair is started, or if the structure has been damaged and is being restored, before the damage occurred. Substantial improvements are calculated on a cumulative basis, beginning with improvements commenced on or after ~~November 1, 1991~~ September 11, 2013.

~~1. If the County Engineer determines that market value of the improvement cannot be reasonably ascertained, the County Engineer can accept a projected cost estimate of the improvement to compare it to the market value of the existing structure.~~

~~a1.~~ The costs of the improvement shall include, but are not necessarily limited to, all materials, labor, built-in appliances, overhead, profit, and repairs to damaged portions of the building that are done concurrent with the subject improvements.

~~b2.~~ The costs of the improvement shall not include ~~those associated with~~ post-storm debris removal; ~~permitting; fees, preparation of~~ surveys, ~~costs,~~ plans, ~~and/or~~ specifications; ~~or~~ improvements outside of the structure, such as landscaping, sidewalks, fences, or detached structures; ~~or work under a minor building permit exempted from floodplain development permit requirements under Section 4-407.F. of this Code.~~

B. The term substantial improvement does not include:

1. Either any project for improvement of a structure to comply with existing state or local health, sanitation, safety, or building 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 on the Colorado State Historical Society's list of historic places.