

DC-22-0004


Land Use Code text amendments
related to Floodplain Regulations

Public Meeting (virtual)

February 9th, 2023

Using Zoom

In Zoom

- Mute  Unmute
- Raise hand
- Type questions in the Q&A

On the phone

- *6 to mute / unmute
- *9 to raise / lower hand

Agenda

- Staff Introductions
- Where Do Floodplain Regulations Apply?
- Proposed Text Amendments
 - Agricultural Structures (FEMA policy)
 - Occupancy in floodplains (MHFD policy)
 - Other clarifications
- Next Steps
- Questions

Staff Introductions

- **Kelly Watson** Principal Floodplain Planner
- **Sarah Heller** Floodplain Program Planner
- **Hannah Hippely** Planning Manager
- **Ron Flax** Chief Building Official, Deputy Director for Building and Permits

Where Do Floodplain Regulations Apply?

FLOODPLAIN MAPS ARE NOT CHANGING...

...as a result of this docket

Where Do Floodplain Regulations Apply?

Visit boco.org/floodplain > Click

View The Official Boulder County Floodplain Map [↗](#)

Boulder County Official Regulatory Floodplain

Boulder County Regulatory Flood Risk Zones

- Floodway (Boulder County)
- 100-Year Floodplain - Zones AE, A, AO, and AH (Boulder County)
- 500-Year Floodplain - Zone X500 (Boulder County)

Flood Risk Zones (FEMA)

FEMA Regulatory Flood Risk Zones

- Floodway (FEMA)
- 100-Year Floodplain - Zones AE, A, AO and AH (FEMA)
- 500-Year Floodplain - Zone X500 (FEMA)

Floodplain Overlay District = 100-year floodplain + Floodway

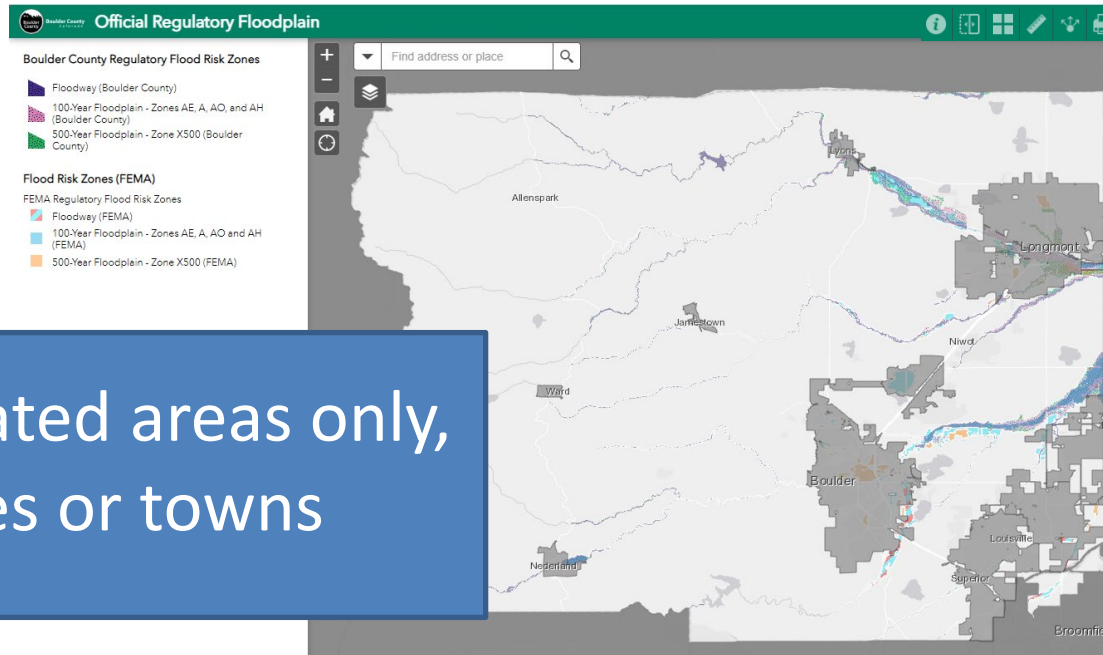
Floodplain Code Changes (DC-22-0004)



Where Do Floodplain Regulations Apply?

Visit boco.org/floodplain > Click

View The Official Boulder County Floodplain Map [↗](#)



Unincorporated areas only,
not cities or towns

MAPS ARE NOT
CHANGING

as a result of this docket

Proposed Text Amendments

boco.org/dc-22-0004

C. Uses Allowed in Floodway under Certain Conditions.

1. The County Engineer may issue FDPs for the following development types and open uses within the Floodway unless the use (1) is prohibited in the underlying zoning district, (2) adversely affects the efficiency of the Floodway, (3) changes the direction of flow, or (4) poses a significant safety hazard:

...

- c. Industrial or commercial uses such as loading areas, ~~railroad rights-of-way (but not including freight yards or switching, storage, or industrial sidings)~~, parking areas, and airport landing strips;

...

- f. Hydraulic structures such as bridges, culverts, weirs, diversions, drop structures, and fish ladders, for access and flood or stormwater control; ~~and~~

- g. Critical Facilities above 6,000 feet in elevation, as described in 4-405(D); and:

- h. Linear transportation infrastructure, including but not limited to roads, trails, and railroad rights-of-way (but not including freight yards or switching, storage, or industrial sidings).

Text to be
deleted
(~~strikethrough~~)

Text to be
added
(underline)

Land Use Code Article 4-400: boco.org/landusecode

Proposed Text Amendments

- Variance process for at-grade agricultural structures (FEMA policy)
- Occupancy in floodplains (Mile High Flood District policy)
- Other clarifications, including:
 - Site Plan Review trigger
 - Manufactured Homes
 - Emergency work

Agricultural Structures

Current Flood Protection Requirements
by Structure Type



Agricultural Structures

Current Flood Protection Requirements by Structure Type

Residential – Elevated



Flood
Protection
Elevation

Agricultural Structures

Current Flood Protection Requirements by Structure Type

Residential – Elevated

Commercial – Elevated OR “dry-floodproofed”



Agricultural Structures

Current Flood Protection Requirements by Structure Type

Residential – Elevated

Commercial – Elevated OR “dry-floodproofed”

Accessory – Elevated OR
at-grade and “wet-floodproofed” if small / minimal investment



Agricultural Structures

Current Flood Protection Requirements by Structure Type

Residential – Elevated

Commercial – Elevated OR “dry-floodproofed”

Accessory – Elevated OR
at-grade and “wet-floodproofed” if small / minimal investment

Agricultural – at-grade and “wet-floodproofed”



Agricultural Structures

Current Flood Protection Requirements by Structure Type

Residential – Elevated

Commercial – Elevated OR “dry-floodproofed”

Accessory – Elevated OR at-grade and “wet-floodproofed” if small / minimal investment

Agricultural – at-grade and “wet-floodproofed”

Proposed

Residential – no change

Commercial – no change

Accessory – no change

Agricultural – Elevated, “dry-floodproofed” OR at-grade and “wet-floodproofed” via variance, if there is low damage potential

Agricultural Structures

- Proposed administrative variance
 - Submitted with Floodplain Development Permit application
 - Reviewed and approved by staff committee
 - Does not need to go to the Board of Adjustment
- Conditions:
 - Must use flood-resistant materials
 - Service equipment must be above the Flood Protection Elevation
 - Must be adequately anchored
 - Must have low damage potential (construction, contents, function)
- Wet-floodproofed (i.e., flood vents)



Agricultural Structures

- Must be used exclusively for agriculture
- Does not apply to buildings without two rigid walls and a roof



Agricultural Structures (4-405.C.3.c)

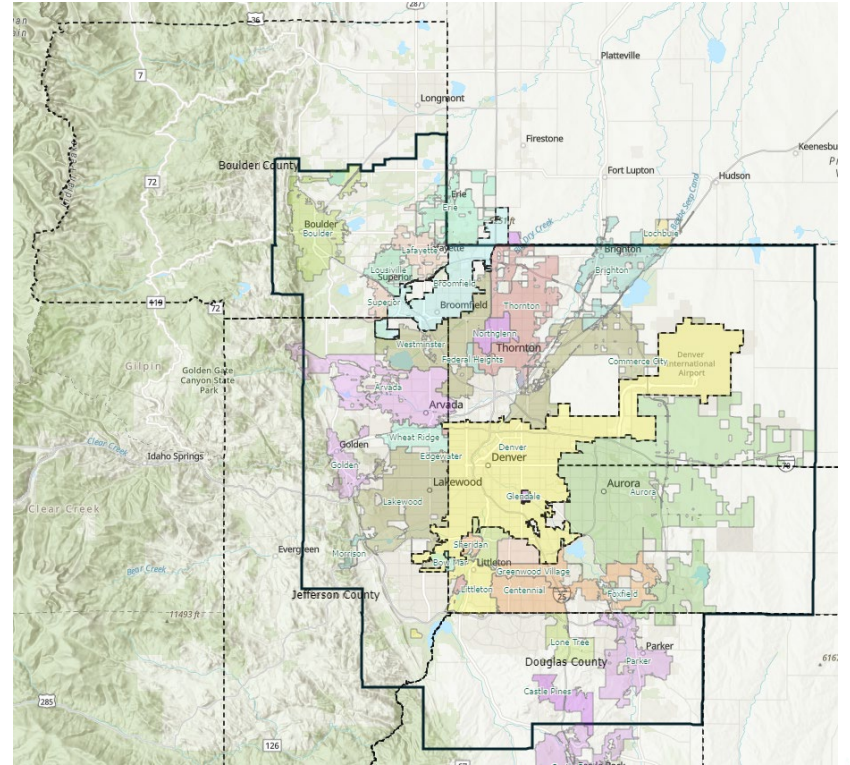
- c. Agricultural Buildings and Structures. New Floodplain Construction of any Permanent agricultural building or structure in the Flood Fringe must be limited in use to agricultural purposes, in which the use is exclusively in connection with the production, harvesting, storage, drying, or raising of agricultural commodities, including the raising of livestock. Agricultural buildings and structures are those used exclusively for agricultural purposes or uses in connection with the production, harvesting, storage, raising, or drying of agricultural commodities and livestock. Buildings and structures used for human habitation and those that are places of employment or entertainment and structures with multiple or mixed purposes do not satisfy the “exclusive use” requirement and are not agricultural buildings and structures. Types of buildings and structures that qualify under this section include farm storage structures (used exclusively for the storage of farm machinery and equipment), silos, grain elevators, grain bins, corn cribs, and general purpose barns/loafing sheds.
- (i) The building or structure must not be designed for or used as Habitable Space.
 - (ii) ~~The building or structure must be wet floodproofed according to 4-405(C)(2)(b).~~
 - (iii) Service equipment must be elevated to the FPE, unless elevation of such equipment impedes its agricultural use.
 - (iiiiv) Permanent agricultural buildings or structures are prohibited in the Floodway.
 - (iv) Temporary agricultural buildings or structures are allowed in the ~~floodway, but~~ are required to be relocated outside of the FO District or deconstructed in the event of a flood warning. If relocation outside of the FO District is not possible, then relocation to the Flood Fringe will be allowed, so long as the temporary structure is properly anchored.
 - (v) Agricultural buildings or structures that do not have at least two rigid walls and a fully secured roof, including but not limited to pens, pole barns, shade structures, and some livestock shelters may be constructed at grade and must use flood-resistant materials up to the FPE.
- (vi) Agricultural buildings or structures with at least two rigid walls and a fully secured roof must conform with 4-405(C)(2), or must be designed to be water-tight with walls substantially impermeable to the passage of water below the FPE, unless an administrative variance is granted by the County Engineer to allow the building or structure to be either elevated to the BFE, or wet-floodproofed at-grade in accordance with 4-405(C)(2)(b).
 - (vii) Requests for an administrative variance described in (vi) above must be made in writing using an approved form and submitted with a complete Individual Floodplain Development Permit application. An administrative variance allowing an agricultural building or structure to be wet-floodproofed may be granted if the following criteria are met:
 - (A) The building or structure meets all flood protection requirements of 4-405(B), 4-405(C)(1), and 4-405(C)(2)(b);
 - (B) The building or structure has low flood damage potential and cost of recovery with respect to construction, contents, and function;
 - (C) The building or structure does not increase risks and pose a danger to public health, safety, and welfare if flooded and contents are released, including but not limited to the effects of flooding on manure storage, livestock confinement operations, liquified natural gas terminals, and production and storage of highly volatile, toxic, or water-reactive materials; and
 - (D) The variance would provide the minimum relief necessary to avoid exceptional hardship.

Agricultural Structures (4-405.C.3.c)

(viii) Prior to issuance of Certificate of Occupancy or final inspection, whichever occurs last, the property owner may be required to execute a Non-Conversion Agreement and the County must record the agreement in the real estate records. If required, the agreement will be in the form of a restrictive covenant or other County approved binding instrument, where the benefits of the covenant run in favor of the County. The covenant must be drafted to run with the land and bind successors, in perpetuity. The purpose of the covenant is to document the current owner's understanding of the limitations on construction and use of the building in accordance with the provisions of this section 4-405(C)(3)(c) (Agricultural Buildings and Structures), and to put prospective purchasers on notice of such restrictions. The covenant will also reference retrofitting criteria necessary to properly convert the building to habitable space, should the owner choose to do so. In addition to any other enforcement mechanisms available, violation of the agreement will be considered a violation of this Article 4-400 and subject to all applicable zoning enforcement procedures.

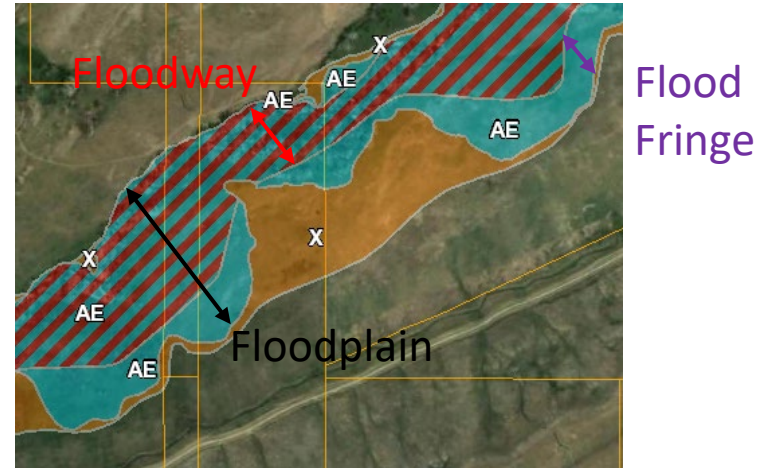
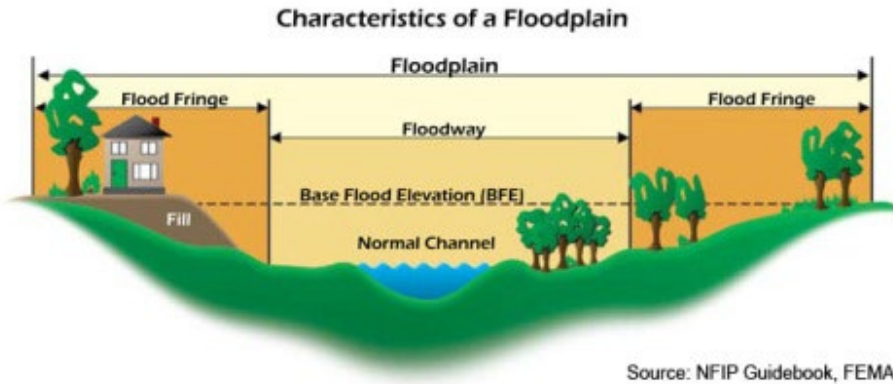
Occupancy in Floodplains

- Mile High Flood District
 - Regulates floodplains, maintains urban drainageways, conducts flood studies, and much more
 - Denver metro area
- Recently adopted regulations prohibiting camping and makeshift structures in floodplains



Occupancy in Floodplains (4-404)

Camping in Floodways is already prohibited



Proposed change applies to the Flood Fringe

Occupancy in Floodplains (4-404)

B. Uses Prohibited in Floodway

...

6. Dispersed camping, including the use of tents, makeshift structures, enclosures, and other temporary shelters used for habitation, except in locations approved through the issuance of a Group Gathering / Special Event Permit as defined in this Code that have adequate sanitation facilities and a flood evacuation plan; unless the camping is approved through the issuance of a Group Gathering / Special Event Permit as defined in the Land Use Code;

D. Uses Allowed in Flood Fringe under Certain Conditions

...

5. Dispersed Camping, overnight campgrounds, tents, makeshift structures, enclosures, and other temporary shelters used for habitation in the Flood Fringe must be approved through the issuance of a Group Gathering / Special Event Permit as defined in this Code and must have adequate sanitation facilities and a flood evacuation plan.

Site Plan Review triggers (4-802)

A. Site Plan Review shall be required for (unless not required or waived pursuant to sections B and C below):

...

8. Any development or earthwork requiring an Individual Floodplain Development Permit.

...

B. Site Plan Review shall not be required for:

...

6. Any development or earthwork eligible for a General Floodplain Development Permit.

7. Any development or earthwork requiring an Individual Floodplain Development Permit, so long as the Community Planning & Permitting Director finds no conflicts with the standards listed in Article 4-806 of this Code, such as projects that do not change building footprints or grading that does not otherwise require SPR.

...

C. Site Plan Review may be waived for the following circumstances if the Community Planning & Permitting Director determines that there is no potential for any significant conflict with the criteria listed in Article 4-806 of this Code:

...

9. Any development or earthwork requiring an Individual Floodplain Development Permit for which the Director does not exempt Site Plan Review per 4-802.B.7. above.

Manufactured Homes (4-405.E)

1. Substantial Improvements will be handled on a home-by-home basis

2. Anchoring should either meet defined standards, or be certified by a P.E.

E. Manufactured Homes Home-Parks

1. General Requirements. All manufactured homes must be installed using methods and practices which minimize flood damage. ~~For the purposes of this requirement, manufactured homes must be elevated to the FPE and anchored to resist flotation, collapse, or lateral movement.~~ All requirements below are in addition to applicable state and local requirements, including those to address wind loads.

2. 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; manufactured homes to be placed or substantially improved on sites in a new manufactured home park, an existing park, or outside a manufactured home park-existing parks; and for manufactured homes not placed in a park:

- a. Stands or lots must be elevated on compacted fill or on pilings so that the lowest floor of the manufactured home will be at or above the FPE. For homes placed on pilings:
 - (i) lots must be large enough to permit steps;
 - (ii) piling foundations must be placed in a stable soil no more than ten feet apart; and
 - (iii) reinforcements must be provided for pilings more than six feet above the ground level.
- b. Adequate surface drainage must be provided.

c. New or ~~New or~~ Manufactured homes and additions to manufactured homes must be anchored to resist flotation, collapse, or lateral movement. The foundation system must be certified by a P.E. registered in the State of Colorado to withstand the anticipated forces of the 1%-

annual-chance (100-year) flood or use by providing over-the-top and frame ties to ground anchors as well as the following that meet the following requirements:

- (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; and
- (iii) all components of a manufactured home anchoring system must be capable of carrying a force of 4800 pounds; ~~and~~
- ~~(iv) Any additions to the manufactured home be similarly anchored.~~

d. All mechanical equipment and outside appliances must be elevated to or above the FPE.

e. Fully enclosed areas below the lowest floor of the manufactured home must comply with 4-405.C.2.b.

Emergency Work (4-404)

4-404 Floodplain Development Permits

...

- E. Emergency Work.** Emergency work necessary to prevent or mitigate an immediate threat to life or property is allowed. The property owner is responsible for notifying the County Engineer within 3 days of the initiation of all emergency work. A complete application for a Floodplain Development Permit shall be submitted within 30 days of commencement of work. Authorization to perform emergency work does not indicate approval of such work. If
-
- necessary, modifications to the work already performed may be required in accordance with this Code.

Other Clarifications

- State and federal minimum standards
- Clarify when Elevation Certificates are required
- Roads as an allowed use in the floodway
- Clarify language around General FDP “notice”
- Remove requirement for Pre-Application conferences
- Better define “Floodway” and “Basement” to match FEMA definitions
- Other minor changes

Next Steps

- Comments accepted through the end of February
- March Planning Commission hearing
- Board of County Commissioners hearing, pending a recommendation from the Planning Commission

For updates and hearing information, visit:

boco.org/dc-22-0004

QUESTIONS?

Type questions into the Q&A OR raise your hand

boco.org/dc-22-0004

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