

ORDINANCE NO. _____

AN ORDINANCE AMENDING FLOODPLAIN REGULATIONS AND DEVELOPMENT STANDARDS IN ORDER TO PROTECT CRITICAL FACILITIES AND LODGING FACILITIES IN THE FIVE HUNDRED-YEAR FLOODPLAIN INCLUDING CHAPTER 9-3, "OVERLAY DISTRICTS," CHAPTER 9-9, "DEVELOPMENT STANDARDS," AND SECTION 9-16-1 "DEFINITIONS," B.R.C. 1981; AND SETTING FORTH RELATED DETAILS.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOULDER,

COLORADO:

Section 1. Section 9-3-2, B.R.C. 1981 is amended to read:

9-3-2 Floodplains.

- (a) Legislative Intent: The purpose of this section is to regulate certain areas of the city subject to flooding in order to protect the public health, safety, and welfare by:
 - (1) Restricting or prohibiting certain uses that are hazardous to life or property in time of flood;
 - (2) Restricting the location of structures intended for human occupancy and regulating the manner in which such structures may be built in order to minimize danger to human life within and around such structures;
 - (3) Requiring that those structures allowed in the floodplain be expanded or enlarged, and equipment and fixtures be installed or replaced, in a manner designed to prevent their being washed away and to assure their protection from severe damage;
 - (4) Regulating the method of construction and replacement of water supply and sanitation systems in order to prevent disease, contamination, and unsanitary conditions;
 - (5) Maintaining for public inspection available maps delineating areas subject to such provisions in order to protect individuals from purchasing or using lands for purposes that are not suitable¹;
 - (6) Protecting and preserving the water-carrying and water-retention characteristics and capacities of watercourses used for conveying and retaining floodwaters; and
 - (7) Obtaining and maintaining the benefits to the community of participating in the National Flood Insurance Program.

¹The maps maintained by the city shall also delineate the five hundred-year floodplain for purposes of section 9-9-23, "Regulations Governing Critical Facilities and Lodging Facilities," B.R.C. 1981.

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- (b) Flooding May Occur: The degree of flood protection provided by the terms of this section has been determined to be reasonable for regulatory purposes. Floods of greater magnitude will occur, and flood heights may be increased as a result of natural or human-made causes. The provisions of this section do not imply that areas outside of the floodplain or land uses permitted within the floodplain are free from flooding, flood hazard, or flood damages. A grant or approval by the city under the requirements of this section does not constitute a representation, guarantee, or warranty of any kind or nature by the city or any city official or employee of the practicability or safety of any structure or proposed use, and it creates no liability to or cause of action against the city or any city official or employee for any damages from flood or otherwise that may result from such structure or use.

- (c) Scope and Application:
 - (1) The requirements of this section supplement those imposed on the same lands by any underlying zoning provisions of this code or other ordinance of the city. The city has also adopted development standards for critical facilities and lodging facilities located within the five hundred-year floodplain pursuant to section 9-9-23, "Regulations Governing Critical Facilities and Lodging Facilities," B.R.C. 1981. If there is a conflict between such requirements, the more restrictive controls.

 - (2) If a lot or parcel of land lies partly within the high hazard zone or the conveyance zone, ~~or the flood fringe area or the one hundred-year floodplain~~, the part(s) of such lot or parcel lying within such area or areas shall meet all the standards and requirements of such respective area as prescribed by this section. For the purposes of new construction, if any portion of a structure lies partly within the high hazard zone, ~~or the conveyance zone, or the one hundred-year floodplain or the flood fringe area~~, all the standards and requirements of this section shall apply to the entire structure.

 - (3) If lands located outside the city limits are included within the one hundred-year floodplain, ~~the flood fringe~~, the conveyance zone or the high hazard zone, the requirements of this section shall apply to such lands upon annexation.

- (d) Administration: The city manager shall administer the requirements of this section and shall:
 - (1) Determine that the requirements of this section have been met before issuing any permit for development in the floodplain;

 - (2) Obtain and maintain for public inspection any certificates of floodproofing required by this section, and any information on the elevation (in relation to mean sea level) of the level of the lowest floor (including basement) of all new or substantially improved structures, and information specifying whether or not such structures contain a basement, and if the structure has been floodproofed, the elevation (in relation to mean sea level) to which the structure was floodproofed;

- 1 (3) Notify Boulder County and the Colorado Water Conservation Board before
2 permitting any change in a watercourse and submit evidence of such notice to
3 FEMA;
 - 4 (4) Adopt rules interpreting and implementing the requirements of this section
5 including, without limitation, application procedures for floodplain development
6 permits and specifications for the floodproofing of structures, substantial
7 improvements, and utilities;
 - 8 (5) Assure that the Boulder Valley Comprehensive Plan is consistent with the
9 floodplain management objectives of this section and the regulations of FEMA;
 - 10 (6) Make necessary interpretations of the exact location of the boundaries of the
11 floodplain, ~~the flood fringe~~, the conveyance zone and the high hazard zone;
 - 12 (7) Amend the boundaries of the high hazard zone and the conveyance zone pursuant
13 to subsection (f) of this section;
 - 14 (8) Determine that all necessary permits have been obtained from state, federal, or
15 local agencies the approval of which is required before issuing any permit for
16 development in the floodplain;
 - 17 (9) Require that persons changing a watercourse maintain the watercourse so that its
18 flood carrying capacity is not diminished;
 - 19 (10) Require that new and replacement water supply systems in the floodplain be
20 designed to minimize or eliminate infiltration of floodwaters into the systems;
 - 21 (11) Require that new and replacement sanitary sewage systems within the floodplain
22 be designed to minimize or eliminate infiltration of floodwaters into the systems
23 and discharges from the systems into floodwaters;
 - 24 (12) Require that on-site waste disposal systems be located to avoid impairment to
25 them or contamination from them during flooding; and
 - 26 (13) Obtain, review, and reasonably utilize any ~~base~~-flood elevation and floodway data
27 available from federal, state, and other sources, including data developed pursuant
28 to chapter 9-12, "Subdivision," B.R.C. 1981, as criteria for requiring that all new
development meet the requirements of this section.
- (e) Appeals: Any person contesting the city manager's interpretation of a boundary location under paragraph (d)(6) of this section, or any person aggrieved by the granting or denial of a floodplain development permit, may appeal such determination to the planning board through the process described in section 9-4-4, "Appeals, Call-Ups And Public Hearings," B.R.C. 1981. The request shall set forth the reason and basis for the appeal and such other information as the manager may prescribe by rule.
- (f) Map Amendments: As watercourse or flood channel improvements or mapping corrections are made, the city manager may amend the flood regulatory area maps to recognize the changed conditions produced by such improvements or corrections provided that no such amendments or corrections may change a FEMA "area of special flood hazard" or "regulatory floodway" unless the city is in receipt of a letter of map amendment or a letter of map revision issued by FEMA.

1 (g) Flood Regulatory Areas:

2 (1) The provisions of this section apply to the area shown as floodplain on the most
3 recent maps adopted by the city council, as amended from time to time by the city
4 manager pursuant to subsections (d), (e), and (f) of this section. The regulatory
5 floodplain encompasses the one hundred-year floodplain, ~~the flood fringe~~, the
6 conveyance zone, and the high hazard zone. The following regulations governing
7 each portion of the floodplain are cumulative and not exclusive.

8 (2) In addition to the regulatory areas identified in paragraph (g)(1) of this section,
9 the city has adopted the areas of special flood hazard identified in the Flood
10 Insurance Study for Boulder County, effective December 18, 2012, and delineated
11 on the Flood Insurance Rate Map for Boulder County and the City of Boulder as
12 adopted by the city in compliance with 44 C.F.R. chapter 1. In no event will the
13 regulations contained in this section be interpreted to permit any action not
14 permitted under those regulations promulgated by FEMA for the regulation of
15 areas of special flood hazard and regulatory floodways.

16 (3) The city has also adopted development standards for critical facilities and lodging
17 facilities located within the five hundred-year floodplain pursuant to section 9-9-
18 23, "Regulations Governing Critical Facilities and Lodging Facilities," B.R.C.
19 1981. The regulations governing critical facilities and lodging facilities are
20 supplemental to the following requirements in the flood regulatory areas.

21 Section 2. Section 9-3-3, B.R.C. 1981 is amended to read:

22 **9-3-3 Regulations Governing the Floodplain.**

23 (a) General Provisions: In the entire one hundred-year floodplain, the following standards
24 apply:

25 (1) Floodplain Development Permit: Except as specified in section 9-3-6(a),
26 "Activities Exempt From A Floodplain Development Permit," B.R.C. 1981,
27 ~~paragraph (a)(1)(A),~~ no development in the floodplain may occur prior to the
28 issuance of a floodplain development permit pursuant to section 9-3-6,
"Floodplain Development Permits," B.R.C. 1981.

~~(A) — Activities exempt from a floodplain development permit: The following
activities are allowed within the flood regulatory area and do not require a
floodplain development permit:~~

~~(i) — "Maintenance" as defined in chapter 9-16 "Definitions" that do not
constitute a substantial improvement and do not affect the
efficiency or capacity of the conveyance zone or high hazard zone.~~

~~(ii) — Sidewalks, concrete, asphalt or stone flatwork that does not result
in the establishment or expansion of parking areas and does not
modify existing grade by more than six inches.~~

~~(iii) — Underground utilities that do not modify existing grade.~~

1 ~~(iv) Poles, lines, cables, sign posts, landscaping and artwork that do not~~
2 ~~affect the efficiency or capacity of the conveyance zone or high~~
3 ~~hazard zone.~~

4 ~~(v) Temporary facilities that are not permanently attached to the~~
5 ~~ground such as tents, traffic control devices and lawn furniture~~
6 ~~provided that they will not affect the efficiency or capacity of the~~
7 ~~conveyance zone or high hazard zone, or they will remain in place~~
8 ~~for no more than 30 days.~~

9 (2) Anchoring:

10 (A) All new construction and substantial improvements or substantial
11 modifications shall be anchored to prevent flotation, collapse, or lateral
12 movement of the structure and be capable of resisting the hydrostatic and
13 hydrodynamic loads.

14 (B) All manufactured homes must be elevated and anchored to resist flotation,
15 collapse, or lateral movement and capable of resisting the hydrostatic and
16 hydrodynamic loads. Methods of anchoring may include, but are not
17 limited to, use of over-the-top or frame ties connecting to permanent
18 ground anchors, in addition to any anchoring requirements for resisting
19 wind forces and any tie-down requirements of chapter 10-12, "Mobile
20 Homes," B.R.C. 1981. Requirements shall include, without limitation, the
21 following:

22 (i) Over-the-top ties shall be provided at each of the four corners of
23 the manufactured homes. For manufactured homes fifty feet or
24 longer, two additional ties per side are required at intermediate
25 locations. For manufactured homes less than fifty feet long, one
26 additional tie per side is required;

27 (ii) Frame ties shall be provided at each of the four corners of the
28 manufactured homes. For manufactured homes fifty feet or longer,
29 five additional ties per side are required at intermediate points. For
30 manufactured homes less than fifty feet long, four additional ties
31 per side are required;

32 (iii) All components of the anchoring system shall be capable of
33 carrying a force of four thousand eight hundred pounds; and

34 (iv) Any additions to manufactured homes shall be similarly anchored.

35 (3) Construction Materials and Methods:

36 (A) All new construction, substantial improvements, and substantial
37 modifications shall be constructed with materials and utility equipment
38 resistant to flood damage as outlined in the most current FEMA Technical
39 Document on 2-93, Flood-Resistant Materials Requirements.

40 (B) All new construction, substantial improvements, and substantial
41 modifications shall be constructed using methods and practices that
42 minimize flood damage.

1 (C) All new construction, substantial improvements and substantial
2 modifications shall be constructed with electrical, heating, ventilation,
3 plumbing, and air conditioning equipment and other service facilities that
4 are designed and located (by elevating or floodproofing the components)
5 so as to prevent water from entering or accumulating within the
6 components during flooding conditions.

7 (4) Utilities:

8 (A) All new and replacement water supply systems shall be designed to
9 minimize or eliminate infiltration of floodwaters into the systems.

10 (B) All new and replacement sanitary sewage systems shall be designed to
11 minimize or eliminate infiltration of floodwaters into the systems and
12 discharge from the systems into floodwaters.

13 (C) On-site waste disposal systems shall be located to avoid impairment or
14 contamination during flooding.

15 (5) Subdivision Proposals:

16 (A) All subdivision proposals shall demonstrate efforts to minimize flood
17 damage.

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

21 (C) All subdivision proposals shall have adequate drainage provided to reduce
22 exposure to flood damage.

23 (D) Base flood elevation data shall be provided for subdivision proposals and
24 other proposed development.

25 (E) No subdivision proposal shall create a lot which is unbuildable pursuant to
26 this section.

27 ~~(6) Floodproofing: Whenever this section requires a building or structure to be
28 floodproofed, the following standards shall be met:~~

~~(A) Such building or structure shall be floodproofed in accordance with any rules for
floodproofing promulgated by the city manager pursuant to chapter 1-4,
"Rulemaking," B.R.C. 1981, and with current FEMA National Flood Insurance
Program (NFIP) Technical Bulletins;~~

~~(B) Such building or structure shall be floodproofed to the flood protection elevation
in such a manner that the building or structure is watertight with walls
substantially impermeable to the passage of water and in a manner requiring no
human intervention;~~

~~(C) Such building or structure shall have structural components capable of resisting
projected hydrostatic and hydrodynamic loads and the effects of buoyancy; and~~

- 1 ~~(D)~~ Such floodproofing shall be certified by a Colorado registered professional
2 engineer or registered architect to comply with this paragraph. Such certifications
3 shall be provided to the city manager as set forth in paragraph 9-3-2(d)(2), B.R.C.
4 1981.
- 5 (67) Hazardous Materials: No person shall store a hazardous substance at or below the
6 flood protection elevation for the area of the floodplain in which it is located,
7 except for the storage of ~~fuel~~gasoline in existing and replacement underground
8 tanks in existing ~~gasoline fueling~~ service stations and service garages, which tanks
9 are designed to prevent infiltration and discharge into floodwaters and which are
10 adequately anchored and shielded against rupture. For purposes of this paragraph,
11 “existing” means in place and in use on January 1, 1989.
- 12 (78) Automobile Parking: Notwithstanding other provisions of this title, no person
13 shall establish an area for automobile parking in any portion of the floodplain
14 where flood depths exceed eighteen inches.
- 15 (89) Flood Warning System: No owner of a hotel, a motel, a dormitory, a rooming
16 house, a hostel, a school, a bed and breakfast, a daycare center, a group home, or a
17 residential or congregate care facility located in the Boulder Creek floodplain
18 shall fail to provide a flood warning system approved by the city manager that is
19 connected to a point of central communication in the building with twenty-four-
20 hour monitoring. No such person shall fail to maintain such a flood warning
21 system.
- 22 (910) Rental Property: No owner of property that is located in atthe floodplain and
23 subject to a city rental license under chapter 10-3, “Rental Licenses,” B.R.C.
24 1981, shall fail to post on the exterior of the premises at the entrance a sign
25 approved by the city manager stating that the property is subject to flood hazard
26 and containing such further information and posted at such other locations inside
27 the building as the city manager may require.
- 28 (104) Manufactured Housing: All manufactured homes placed in the city after July 1,
1989, and all manufactured homes which are substantially improved or
substantially modified shall be elevated on a permanent foundation so that the
lowest floor of the manufactured home is at or above the flood protection
elevation and is securely anchored to an adequately anchored foundation system,
and shall meet the anchorage and tie-down requirements of paragraph (a)(2) of
this section.
- (112) Recreational Vehicles: In order to reduce debris and hazard potential, recreational
vehicles shall either: a) be in the floodplain for fewer than one hundred eighty
consecutive days, b) be fully licensed and ready for highway use, or c) meet the
permit requirements and elevation and anchoring requirements for manufactured
homes.
- (123) Structure Orientation: In order to minimize the obstruction to flow caused by
buildings, to the extent consistent with other city policies regarding solar access,
new structures shall be placed with their longitudinal axes parallel to the predicted
direction of flow of floodwaters or be placed so that their longitudinal axes are on
lines parallel to those of adjoining structures.

- 1 (134) Existing Uses: The use of any land or structure that was lawful before the
2 application of this section or any amendment thereto but that does not conform to
3 the requirements of this section may be continued subject to the requirements of
4 this section. If such a use not conforming to the requirements of this section is
5 discontinued for twelve consecutive months, no person shall use the land or
6 structure thereafter unless such use conforms to the requirements of this section.
- 7 (145) New Uses: All uses allowed by the underlying zoning district may be established,
8 subject to the requirements of this section, except for the outdoor or uncontained
9 storage of moveable objects below the flood protection elevation.
- 10 (156) Existing Structures: Any structure in existence before the enactment of this
11 section or any amendment thereto that does not conform to the requirements of
12 this section may remain or may undergo rehabilitation subject to the requirements
13 of this section. Further, any such structure may be otherwise improved as follows:
- 14 (A) Any person making an expansion or an enlargement to an existing
15 residential structure shall elevate the lowest floor, including the basement,
16 of the expanded or enlarged portion to or above the flood protection
17 elevation.
 - 18 (B) Any person making an expansion or an enlargement to an existing
19 nonresidential structure shall floodproof or elevate the lowest floor,
20 including the basement, of the expanded or enlarged portion to or above
21 the flood protection elevation.
 - 22 (C) Any person making a substantial modification or a substantial
23 improvement to any existing nonresidential structure shall floodproof or
24 elevate the lowest floor, including the basement, of the substantially
25 modified or improved portion to or above the flood protection elevation
26 and shall floodproof the remainder of the existing structure.
 - 27 (D) Any person making a substantial modification or a substantial
28 improvement to any existing residential structure shall elevate the lowest
29 floor, including the basement, of the entire residential structure to or above
30 the flood protection elevation.
- 31 (167) New Structures: Construction of new structures shall meet the following
32 requirements:
- 33 (A) Any person constructing a new residential structure shall elevate the
34 lowest floor, including the basement, to or above the flood protection
35 elevation;
 - 36 (B) Any person constructing a new nonresidential structure shall floodproof in
37 a manner requiring no human intervention or elevate the lowest floor,
38 including the basement, to or above the flood protection elevation with the
39 following exceptions:
 - 40 (i) Open air carwashes;
 - 41 (ii) Unheated pavilions;
 - 42 (iii) Unfinished or flood resistant building entryways or access areas;

- (iv) Garden storage sheds;
- (v) Sidewalks, paving, or asphalt, concrete, or stone flatwork;
- (vi) Fences; and
- (vii) Poles, lines, cables, or other transmission or distribution facilities of public utilities.

(C) Any person constructing a new structure on a property removed from the one hundred-year floodplain through a FEMA Letter of Map Revision Based on Fill (LOMR-F) shall protect the lowest floor, including the basement, to or above the flood protection elevation that existed before placement of fill, as follows:

- (i) Residential structures: by elevating the structure; or
- (ii) Non-residential structures: by elevating or floodproofing the structure.

Solely for the purposes of this subparagraph (a)(17)(C), previously designated floodplain areas that have been removed from the one hundred-year floodplain through a LOMR-F shall be considered to be within the floodplain. No person shall construct a new structure subject to this subparagraph (a)(17)(C) prior to the issuance of a floodplain development permit pursuant to section 9-3-6, "Floodplain Development Permits," B.R.C. 1981.

(178) Enclosures: Enclosures below the lowest floor that are unfinished or flood resistant, usable solely for parking of vehicles, crawl spaces, building access or storage, in an area that is not a basement, and that are not floodproofed as set forth in this section shall meet the following requirements:

- (A) Compliance with the provisions of paragraphs (a)(2), (a)(3), and (a)(4) of this section; and
- (B) Design and construction that automatically equalizes hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters.
 - (i) Designs for meeting this requirement shall meet or exceed the following minimum criteria: 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. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

1 (ii) Any designs not in conformance with subparagraph (a)(18)(B)(i)
2 of this section, shall be sealed and certified by a registered
3 professional engineer or licensed architect and shall conform with
4 the most current FEMA Technical Bulletin ~~on 1-93~~, Openings In
5 Foundation Walls.

6 (C) Fully enclosed areas below the lowest floor subject to this provision,
7 include the following:

- 8 (i) Residential garages placed at or above grade;
- 9 (ii) Enclosures or vestibules that are attached to structures and that are
10 utilized for storage or entryways;
- 11 (iii) Crawl spaces; and
- 12 (iii) Outdoor pavilions and patio enclosures with removable walls not
13 located in the high hazard zone.

14 (189) Below Grade Crawl Space Construction: New construction, expansion or
15 enlargement, substantial improvement and substantial modification of any below
16 grade crawl space shall meet the following requirements:

- 17 (A) Interior grade elevation that is below the base flood elevation shall be no
18 lower than two feet below the lowest adjacent grade;
- 19 (B) The height of the below grade crawl space measured from the interior
20 grade of the crawl space to the top of the foundation wall shall not exceed
21 four feet at any point;
- 22 (C) Adequate drainage systems shall allow floodwaters to drain from the
23 interior area of the crawl space following a flood; and
- 24 (D) The provisions of paragraphs (a)(2), (a)(3), (a)(4) and (a)(187) of this
25 section shall be complied with.

26 Section 3. Section 9-3-4, B.R.C. 1981 is amended to read:

27 **9-3-4 Regulations Governing the Conveyance Zone.**

28 In the conveyance zone, the following standards apply:

- 29 (a) The provisions of section 9-3-3, "Regulations Governing the Floodplain," B.R.C. 1981.
- 30 (b) The provisions of section 9-3-5, "Regulations Governing the High Hazard Zone," B.R.C.
31 1981, if the land is also located in the high hazard zone.
- 32 (c) All uses allowed under the provisions of section 9-3-3, "Regulations Governing the
33 Floodplain," B.R.C. 1981, if they are not prohibited by the underlying zoning district or
34 any ordinance of this city, may be established except that no person shall establish or
35 change any use that results in a rise in the elevation of the one hundred-year flood.
- 36 (d) All structures allowed under section 9-3-3, "Regulations Governing the Floodplain,"
37 B.R.C. 1981, may be established except that no person shall:

- 1 (1) Place any structure in the conveyance zone that will result in any rise in the
2 elevation of the one hundred-year flood; or
- 3 (2) Place any obstruction in the conveyance zone, except a device reasonably
4 necessary for flood management if the device is designed and constructed to
5 minimize the potential hazards to life and property.
- 6 (e) No person shall carry out any other development that results in a rise in the elevation of
7 the one hundred-year flood.
- 8 (f) Localized rises within flood channels or on a specific parcel that is being developed are
9 permissible, if there is no adverse impact on nearby properties and there is no increase in
10 the average water surface elevations along the cross sections of the floodplain.
- 11 (g) Localized rises on land owned or controlled by a government, or governmental
12 subdivision or agency or within public drainage or flood control easements are
13 permissible, if the following requirements have been satisfied:
 - 14 (1) The applicant has necessary property interests or permission to use land to allow
15 the increase in any water surface elevation or there is no adverse impact to such
16 land;
 - 17 (2) There are no insurable structures under the FEMA National Flood Insurance
18 Program affected by the localized rise;
 - 19 (3) The applicant minimizes the amount of the localized rise in a flood elevation; and
 - 20 (4) The applicant complies with all necessary FEMA requirements, including without
21 limitation, obtaining a Conditional Letter of Map Revision (CLOMR) prior to
22 development and a Letter of Map Revision (LOMR) upon completion of a project
23 causing a localized rise in a flood elevation.

24 Section 4. Section 9-3-5, B.R.C. 1981 is amended to read:

25 **9-3-5 Regulations Governing the High Hazard Zone.**

26 In the high hazard zone of the floodplain, the following standards apply:

- 27 (a) The provisions of section 9-3-3, "Regulations Governing The Floodplain," B.R.C. 1981.
- 28 (b) The provisions of section 9-3-4, "Regulations Governing The Conveyance Zone," B.R.C. 1981, if the land is also located in the conveyance zone.
- (c) All uses allowed under the provisions of section 9-3-3, "Regulations Governing The Floodplain," B.R.C. 1981, if they are not prohibited by the underlying zoning district or any other ordinance of the city, may be established, except that no person shall:
 - (1) Change the use of an existing structure intended for human occupancy from a nonresidential use to a residential use or use as a school, daycare center, group home, residential care facility, or congregate care facility.
 - (2) Establish any new parking lot for motor vehicles.
 - (3) Establish any campground.

- 1 (d) All structures allowed under the provisions of section 9-3-3, "Regulations Governing The
2 Floodplain," B.R.C. 1981, may be established, except that no person shall:
- 3 (1) Construct or place any new structure intended for human occupancy.
- 4 (2) Expand, enlarge, or make a substantial modification or substantial improvement
5 to any existing structure intended for human occupancy. Notwithstanding this
6 provision, a person may reconstruct a non-flood-damaged structure or portion
7 thereof, which otherwise does constitute a substantial improvement, under the
8 provisions of subparagraphs 9-3-3(a)(165)(C) and (a)(165)(D), B.R.C. 1981.
- 9 (e) Unconditioned, unenclosed building elements such as balconies, awnings, and roof
10 overhangs may extend up to four feet into the high hazard zone if completely located
11 above the flood protection elevation and the remainder of the structure complies with this
12 chapter.

13 Section 5. Section 9-3-6, B.R.C. 1981 is amended to read:

14 **9-3-6 Floodplain Development Permits.**

- 15 (a) Activities Exempt from a Floodplain Development Permit: The following activities are
16 allowed within the flood regulatory areas and do not require a floodplain development
17 permit:
- 18 (1) "Maintenance" as defined in chapter 9-16, "Definitions," B.R.C. 1981 that do not
19 constitute a substantial improvement, or a modification to an existing hazardous
20 material facility that exceeds 25 percent market value of the existing structure
21 before the start of construction, and that do not affect the efficiency or capacity of
22 the conveyance zone or high hazard zone.
- 23 (2) Sidewalks, concrete, asphalt or stone flatwork that does not result in the
24 establishment or expansion of parking areas and does not modify existing grade
25 by more than six inches.
- 26 (3) Underground utilities that do not modify existing grade.
- 27 (4) Poles, lines, cables, sign posts, landscaping and artwork that do not affect the
28 efficiency or capacity of the conveyance zone or high hazard zone.
- (5) Temporary facilities that are not permanently attached to the ground such as tents,
traffic control devices and lawn furniture provided that they will not affect the
efficiency or capacity of the conveyance zone or high hazard zone, or they will
remain in place for no more than 30 days.
- (~~a~~)(b) An applicant for a floodplain development permit shall pay the fee prescribed by section
4-20-44, "Floodplain Development Permits And Flood Control Variance Fees," B.R.C.

1 1981, and shall complete an application form provided by the city manager that shall
2 include, without limitation, the following:

- 3 (1) The written consent of the owners of all property subject to the development
4 request;
- 5 (2) A written statement addressing the criteria for approval;
- 6 (3) ~~A surface view plan showing elevations and contours of the ground; pertinent
7 structures, fill, and storage elevations; sizes, locations, and spatial arrangements
8 of all proposed, anticipated, and existing structures on the site; location and
9 elevations of streets, water supplies and sanitary facilities; and soil types; and~~
10 An applicant for a critical facility pursuant to section 9-9-23, "Regulations
11 Governing Critical Facilities and Lodging Facilities," B.R.C. 1981, shall indicate
12 whether the facility will contain hazardous material. If the facility will contain
13 hazardous material, the application must include information on the location of
14 the hazardous material and how the hazardous material will be secured to prevent
15 its release during a five hundred-year flood event.
- 16 (4) ~~Specifications for building construction and materials, filling, dredging, grading,
17 channel improvements and changes, storage of materials, water supply, and
18 sanitary facilities. An applicant for a critical facility or lodging facility in the five
19 hundred-year floodplain pursuant to section 9-9-23, "Regulations Governing
20 Critical Facilities and Lodging Facilities," B.R.C. 1981, shall provide a copy of
21 the emergency management plan for the facility meeting the requirements of
22 section 9-9-23(d).~~

23 (c**b**) The manager may require the applicant to furnish additional information and details
24 deemed necessary to evaluate the effects of the proposed construction upon the
25 floodplain, including, without limitation:

- 26 (1) A surface view plan showing elevations and contours of the ground; pertinent
27 structures, fill, and storage elevations; sizes, locations, and spatial arrangements
28 of all proposed, anticipated, and existing structures on the site; location and
elevations of streets, water supplies and sanitary facilities; and soil types; and
- (2) Specifications for proposed building construction and materials, filling, dredging,
grading, channel improvements and changes, storage of materials, water supply,
and sanitary facilities.
- (3)(4) Valley cross sections showing the floodplain surrounding the watercourse, cross
sections of the area to be occupied by the proposed development, and one
hundred-year flood maximum water surface elevation information; and for critical
facilities and lodging facilities, the five hundred-year maximum water surface
elevation information pursuant to section 9-9-23, "Regulations Governing Critical
Facilities and Lodging Facilities," B.R.C. 1981;
- (42) A profile showing the slope of the bottom of the channel or thalweg of the
watercourse;
- (53) A floodplain analysis by a Colorado registered professional engineer of the flood
profile, elevation, and velocity, using methodology acceptable to FEMA,

1 including existing and anticipated uses and making a determination that the
2 proposed construction or development will not cause a rise in the elevation of the
water surface of a one hundred-year flood;

3 (64) A structural analysis by a Colorado registered professional engineer showing that
4 any proposed structures will be adequately designed and constructed to prevent
5 flotation, collapse, or lateral movement of the structure resulting from
hydrodynamic and hydrostatic loads, including the effects of buoyancy and
scouring.

6 (de) When reviewing an application for a permit, the city manager shall determine which
7 portion or portions of the floodplain are affected by the particular development request
8 and shall then apply the provisions of sections 9-3-2, "Floodplains," 9-3-3, "Regulations
9 Governing The Floodplain," 9-3-4, "Regulations Governing the Conveyance Zone," ~~and~~
10 9-3-5, "Regulations Governing the High Hazard Zone," and 9-9-23, "Regulations
11 Governing Critical Facilities and Lodging Facilities," B.R.C. 1981, as applicable. The
manager also shall determine whether the application meets the intent of this chapter
prescribed by subsection 9-3-2(a), ~~B.R.C. 1981,~~ and the intent of section 9-9-23 as
prescribed by subsection 9-9-23(a), B.R.C. 1981, after considering the following factors:

- 12 (1) The effects upon the efficiency or capacity of the conveyance zone and high
13 hazard zone;
- 14 (2) The effects upon lands upstream, downstream, and in the immediate vicinity;
- 15 (3) The effects upon the one hundred-year flood profile;
- 16 (4) The effects upon any tributaries to the main stream, drainage ditches, and any
17 other drainage facilities or systems;
- 18 (5) Whether additional public expenditures for flood protection or prevention will be
19 required;
- 20 (6) Whether the proposed use is for human occupancy;
- 21 (7) The potential danger to persons upstream, downstream, and in the immediate
22 vicinity;
- 23 (8) Whether any proposed changes in a watercourse will have an adverse
24 environmental effect on the watercourse, including, without limitation, stream
25 banks and streamside trees and vegetation;
- 26 (9) Whether any proposed water supply and sanitation systems and other utility
27 systems can prevent disease, contamination, and unsanitary or hazardous
28 conditions during a flood;
- (10) Whether any proposed facility and its contents will be susceptible to flood
damage and the effect of such damage;
- (11) The relationship of the proposed development to the Boulder Valley
Comprehensive Plan and any applicable floodplain management programs;
- (12) Whether safe access is available to the property in times of flood for ordinary and
emergency vehicles;

1 (13) Whether the applicant will provide flood warning systems to notify floodplain
2 occupants of impending floods;

3 (14) Whether the cumulative effect of the proposed development with other existing
4 and anticipated uses will increase flood heights; and

5 (15) Whether the expected heights, velocities, duration, rate of rise, and sediment
6 transport of the floodwaters expected at the site will adversely affect the
7 development or surrounding property.

8 (~~ed~~) If the city manager determines that the applicant meets the purposes and requirements of
9 this chapter, the manager shall issue the permit and may attach such conditions as
10 deemed necessary to further the purposes of this chapter.

11 (~~fe~~) A permit issued on or after April 7, 1985, expires three years after its date of issuance, if
12 the permittee has not commenced construction under the permit. The term “commenced
13 construction” shall mean the first placement of permanent construction of a structure on a
14 site, such as the pouring of slabs or footings, the installation of piles, the construction of
15 columns, or any work beyond the stage of excavation; or the placement of a
16 manufactured home on a foundation; but does not include land preparation, grading and
17 filling, or installation of streets or sidewalks.

18 (~~gf~~) No person who has obtained a permit shall fail to construct in accordance with their
19 approved application and design.

20 (~~hg~~) Floodplain development permits that allow for development in the conveyance zone or
21 the high hazard zone, or which will involve a change of watercourse, shall be decided by
22 the city manager. The decision of the city manager shall be subject to call-up by the
23 planning board, or appeal by any aggrieved party to the planning board, subject to the
24 call-up and appeal procedure of section 9-4-4, “Appeals, Call-Ups And Public Hearings,”
25 B.R.C. 1981.

26 (~~ih~~) A floodplain development permit for any of the following items is effective upon the date
27 of its issuance:

28 (1) Sidewalks, parking lots, or other concrete, asphalt, or stone flatwork that do not
modify existing grade;

(2) Uninhabited overhead structural projections, no portion of which extends below
the flood protection elevation; or

(3) Rehabilitation of an existing structure in accordance with the definitions in
chapter 9-16, “Definitions,” B.R.C. 1981. In addition, for properties in the high
hazard zone, the rehabilitation shall not result in a prohibited change in use as set
forth in subsection 9-3-5(c), B.R.C. 1981.

(~~it~~) No person shall initiate any use after obtaining a permit under this section without first
submitting to the city manager a sealed certification by a Colorado registered professional
engineer that the development has been completed in compliance with the approved
permit application and that all conditions have been fulfilled.

1 (k) Floodplain Development Permit Requirements for Critical Facilities Protected by Levee
2 Systems.

3 (1) An applicant for a floodplain development permit for a critical facility protected
4 by a levee system shall pay the fee prescribed by section 4-20-44, "Floodplain
5 Development Permits and Flood Control Variance Fees," B.R.C. 1981, and shall
6 complete an application form provided by the city manager that shall include,
7 without limitation, the following:

8 (A) A written statement demonstrating compliance with subsection 9-9-23(f),
9 sealed and certified by a Colorado registered professional engineer; and

10 (B) Any additional information and details deemed necessary by the city
11 manager to evaluate the permit application.

12 (2) The city manager shall evaluate a floodplain development permit application for a
13 critical facility protected by a levee system pursuant to the requirements in this
14 subsection (k) and subsection 9-9-23(f), "Critical Facilities Protected by Levee
15 Systems," B.R.C. 1981.

16 (3) A floodplain development permit for a critical facility protected by a levee system
17 shall be issued only upon a finding by the city manager that, based on a Colorado
18 registered professional engineer's sealed certification, the levee system is in
19 compliance with the requirements of subsection 9-9-23(f), "Critical Facilities
20 Protected by Levee Systems," B.R.C. 1981.

21 (4) A floodplain development permit issued for a critical facility protected by a levee
22 system is not subject to the call-up and appeal procedures set forth in subsection
23 9-3-6(h).

24 (5) At least once every three years, the owner or operator of the critical facility
25 protected by a levee system shall file with the city manager a determination from
26 the appropriate federal or state agency, or a sealed and certified determination
27 from a Colorado registered professional engineer, that the levee system meets the
28 minimum freeboard criteria as set forth in subsection 9-9-23(f) and appears, on
visual inspection, to be structurally sound and adequately maintained. The city
manager may require the owner or operator to submit such certification more
frequently than once every three years if warranted by recent flood conditions or
circumstances that may lead to changes in the levee system at the critical facility.
The permit shall lapse if the required determination is not filed.

(4)(6) Once a floodplain development permit has been issued for a critical facility
protected by a levee system, future development on the land protected by the
levee system shall not require a floodplain development permit so long as the
requirements of this subsection (k) and subsection 9-9-23(f) are satisfied.

1 Section 6. Section 9-3-6, B.R.C. 1981 is amended to add a new section 9-3-6.5, B.R.C.
2 1981 to read:

3 **9-3-6.5 Floodproofing Standards.**

4 (a) Floodproofing: Whenever this chapter or section 9-9-23, "Regulations Governing Critical
5 Facilities and Lodging Facilities," B.R.C. 1981, require floodproofing a building or
6 structure, the following standards shall apply:

- 7 (1) Floodproofing shall comply with any rules prescribed by the city manager for
8 floodproofing and current FEMA National Flood Insurance Program (NFIP)
9 Technical Bulletins;
- 10 (2) The manner of floodproofing shall, without requiring any human intervention,
11 make the building or structure watertight to the flood protection elevation, with
12 walls substantially impermeable to the passage of water;
- 13 (3) The building or structure shall have structural components capable of resisting
14 projected hydrostatic and hydrodynamic loads and the effects of buoyancy; and
- 15 (4) The applicant shall provide a sealed certification in a form acceptable to the city
16 manager from a Colorado registered professional engineer or licensed architect
17 certifying that the floodproofing measures comply with this chapter or section 9-
18 9-23, as applicable.

19 Section 7. Section 9-3-7, B.R.C. 1981 is amended to read:

20 **9-3-7 Variances.**

- 21 (a) A person wishing to ~~develop in a manner~~ expand or enlarge an existing structure that does
22 not conform to the requirements of this chapter and cannot be made to conform without
23 unreasonable expense or unreasonable impact on the existing structure may apply to the
24 city manager for a variance from the requirements of subparagraphs 9-3-3(a)(156)(C) and
25 (a)(156)(D), B.R.C. 1981, except that no variance shall be granted for expansion or
26 enlargement of any structure constructed after July 12, 1978, unless such expansion or
27 enlargement conforms to the flood protection elevation requirement in effect at the time
28 of the original construction.
- (b) The city manager shall not grant a variance under this section unless the manager
determines that:
- (1) Considering the flood hazard, the variance is the minimum necessary to afford
relief;
- (2) To do so would not result in additional threats to public safety, extraordinary
public expense, nuisance, fraud, victimization of the public, or for variances in the
conveyance zone a rise in the elevation of the water surface of a one hundred-year
flood, or be in conflict with existing provisions of this code or any ordinance of
the city; and
- (3) Failure to grant the variance would result in exceptional hardship to the applicant.

- 1 (c) The manager shall examine the following factors in determining whether or not to grant a
2 variance under this section:
 - 3 (1) The danger to life and property due to flooding or erosion damage;
 - 4 (2) The likelihood that the proposed development, in conjunction with existing and
5 anticipated development, may increase flood hazards;
 - 6 (3) The relationship of the proposed development to the Boulder Valley
7 Comprehensive Plan and any applicable floodplain management programs; and
 - 8 (4) The cost of providing essential services such as maintaining and protecting public
9 utility systems, roads, and bridges during and after floods.
- 10 (d) The city manager shall not grant a cumulative total of variances that increases a
11 structure’s floor area by more than ten percent of the structure throughout the life of the
12 structure.
- 13 (e) An applicant for a variance shall apply on forms provided by the city manager and pay
14 the fee prescribed by section 4-20-44, “Floodplain Development Permits And Flood
15 Control Variance Fees,” B.R.C. 1981, unless a floodplain development permit is required
16 as well, in which case no fee is required for the variance.
- 17 (f) Any decision by the city manager to approve a variance is subject to call-up by the
18 planning board or appeal by any aggrieved party to the planning board as described by
19 section 9-4-4, “Appeals, Call-Ups And Public Hearings,” B.R.C. 1981.
- 20 (g) When granting any variance that allows for construction below FEMA’s one hundred-
21 year flood protection elevation, the city manager shall provide to the recipient of the
22 variance written notice that the proposed construction does not conform with FEMA
23 guidelines and that the proposed construction and the original structure may be subject to
24 increased flood insurance premiums.

25 ...

26 Section 8. Chapter 9-9, B.R.C. 1981 is hereby amended to add a new section 9-9-23 to
27 read:

28 **9-9-23 Regulations Governing Critical Facilities and Lodging Facilities**

- 29 (a) Purpose: The purpose of this section is to regulate the development of critical facilities in
30 the five hundred-year floodplain in order to minimize the hazards to public health and
31 safety and the interruption of essential services and operations for the community at any
32 time before, during, or after a flood; and to require the development of emergency
33 management plans for all critical facilities and lodging facilities in order to promote an
34 effective and organized flood response.
- 35 (b) Scope and Application:
 - 36 (1) The following development standards apply to critical facilities and lodging
37 facilities located within the five hundred-year floodplain as shown on the most
38 recent maps adopted by the city council, as amended from time to time by the city
39 manager pursuant to subsections (d), (e) and (f) of section 9-3-2, “Floodplains,”

1 B.R.C. 1981. If any portion of a structure lies partly within the five hundred-year
2 floodplain, all the requirements of this section shall apply to the entire structure.

3 (2) The standards governing the development of critical facilities and lodging
4 facilities in this section are in addition to the floodplain regulations of sections 9-
5 3-3, "Regulations Governing the Floodplain," 9-3-4, "Regulations Governing the
6 Conveyance Zone," and 9-3-5, "Regulations Governing the High Hazard Zone,"
7 B.R.C. 1981, if the critical facility or lodging facility is also located in the one
8 hundred-year floodplain, the high hazard zone or the conveyance zone.

9 (3) The city manager shall administer the requirements of this section and may adopt
10 rules interpreting and implementing the requirements of this section, and shall
11 make necessary interpretations of the exact location of the boundaries of the five
12 hundred-year floodplain.

13 (4) Where the water surface elevation of the five hundred-year flood has not been
14 established or is determined by the city manager to be inconsistent with other
15 available topographic or hydraulic data, the city manager may establish a flood
16 protection elevation based on data sources described in subsection 9-3-2(d).

17 (5) Existing Uses: The use of any land or structure that was lawful before the
18 application of this section or any amendment thereto but that does not conform to
19 the requirements of this section may be continued subject to the requirements of
20 this section. If such a use not conforming to the requirements of this section is
21 discontinued for 12 consecutive months, no person shall use the land or structure
22 thereafter unless such use conforms to the requirements of this section.

23 (c) Floodplain Development Permit Required. Except as specified in subsection 9-3-6(a),
24 "Activities Exempt From a Floodplain Development Permit," B.R.C. 1981, no
25 development of a critical facility or lodging facility in the five hundred-year floodplain
26 may occur prior to the issuance of a floodplain development permit pursuant to section 9-
27 3-6, "Floodplain Development Permits," B.R.C. 1981.

28 (d) Emergency Management Plan Required. Owners or operators of a critical facility or
lodging facility within the five hundred-year floodplain shall develop an emergency
management plan meeting the requirements of this section by January 1, 2023.

(1) Emergency management plans shall include either an evacuation plan or a shelter
in place plan.

(A) Evacuation plans shall be sealed and certified by a Colorado registered
professional engineer or licensed architect, and shall provide a means for
safely evacuating occupants to a location outside of the five hundred-year
floodplain.

(B) Shelter in place plans shall be sealed and certified by a Colorado
registered professional engineer and shall demonstrate that the structure
will be safe to occupy during a five hundred-year flood event.

(2) Emergency management plans shall be posted on the inside of each doorway
leading to a separate unit in a lodging facility and displayed in a prominent

1 location or a location designed to provide information to persons within the
2 critical facility that is approved by the city manager.

3 (3) Emergency management plans shall be completed prior to issuance of a
4 floodplain development permit.

5 (e) Construction Requirements for Critical Facilities in the Five Hundred-Year Floodplain.
6 The following requirements apply to critical facilities located within the five hundred-
7 year floodplain. The floodproofing standards applicable to this subsection (e) are set
8 forth in section 9-3-6.5, "Floodproofing Standards," B.R.C. 1981.

9 (1) No owner or operator of a critical facility shall construct or modify, or cause to be
10 constructed or modified, a critical facility within the five hundred-year floodplain
11 except in compliance with the requirements of this section;

12 (2) Any person making an expansion or an enlargement to an existing at-risk
13 population facility or essential service facility shall floodproof or elevate the
14 lowest floor, including the basement, of the expanded or enlarged portion to or
15 above the flood protection elevation;

16 (3) Any person making a substantial modification or a substantial improvement to
17 any existing at-risk population facility or essential service facility shall floodproof
18 or elevate the lowest floor, including the basement, of the substantially modified
19 or improved portion to or above the flood protection elevation and shall
20 floodproof or elevate the remainder of the existing structure to or above the flood
21 protection elevation;

22 (4) Any person constructing a new at-risk population facility or essential service
23 facility shall floodproof or elevate the lowest floor, including the basement, to or
24 above the flood protection elevation;

25 (5) Any person constructing a new hazardous material facility shall secure all
26 hazardous materials from flooding and from being released during a five hundred-
27 year flood event or shall floodproof the facility. Any person making a
28 development to an existing hazardous material facility that requires a floodplain
development permit shall secure all hazardous materials from flooding and from
being released during a five hundred-year flood event in the structure or portion
of the facility being modified, or shall floodproof the structure or portion of the
facility being modified.

(A) The owner or operator of the hazardous material facility shall demonstrate
compliance with this standard by providing a sealed certification from a
Colorado registered professional engineer documenting that due to the
flood threat and hazardous material storage conditions, hazardous material
will not be released at or from the facility during a five hundred-year flood
event.

(B) No person owning, operating, or otherwise using a hazardous material
facility shall fail to bring the entire facility into compliance with this
subsection (5) by January 1, 2023.

1 (f) Critical Facilities Protected by Levee Systems. Critical facilities protected by levee
2 systems within the five hundred-year floodplain are exempt from the requirements of
3 subsections (d), and (e) of this section 9-9-23 provided that the following requirements
4 are satisfied:

4 (1) Floodplain Development Permit Required. No person shall construct or use a
5 new or existing critical facility protected by a levee system under this subsection
6 9-9-23(f) prior to the issuance of a floodplain development permit pursuant to
7 section 9-3-6(k), "Floodplain Development Permit Requirements for Critical
8 Facilities Protected by Levee Systems," B.R.C. 1981.

7 (2) The owner or operator of a new or existing critical facility located landward of a
8 levee system, outside the one hundred-year floodplain but within the five
9 hundred-year floodplain, shall demonstrate that the levee system provides
10 protection against a five hundred-year flood event by meeting the following
11 requirements:

10 (A) Design criteria consistent with 44 CFR § 65.10, except that the minimum
11 riverine levee freeboard criterion shall be one foot above the water surface
12 elevation of a five hundred-year flood, rather than three; and

12 (B) Operation and maintenance standards (including an operating and
13 maintenance manual and periodic freeboard and visual inspections) that
14 ensure continuing proper function of the levee system, consistent with
15 Rule 10 of the Colorado Rules and Regulations for Regulatory Floodplains
16 in Colorado. (2 CCR 408-1:10, Criteria for Determining Effects of Levees
17 on Regulatory Floodplains).

16 (3) The owner or operator of a new or existing critical facility located landward of an
17 accredited levee or a provisionally accredited levee within areas mapped Zone X
18 (shaded) shall demonstrate that the levee system meets the design criteria of 44
19 CFR § 65.10 and Rule 10 of the Colorado Rules and Regulations for Regulatory
20 Floodplains in Colorado (2 CCR 408-1:10, Criteria for Determining Effects of
21 Levees on Regulatory Floodplains).

20 (4) The owner or operator of a critical facility must secure an agreement, meeting the
21 requirements of subparagraphs 9-9-23(f)(2) and (3) as applicable, with the levee
22 owner and/or operator for continued operation and maintenance of the levee
23 system in order to be recognized as protected by a levee system.

22 (5) If a levee system protecting an existing critical facility fails to meet the freeboard
23 criterion of subparagraph (f)(2)(A) of this section because FEMA revises a FIRM,
24 construction and use of that critical facility may occur for two years after the
25 revision, but only while the levee owner or operator actively and diligently
26 pursues levee improvements to comply with this subsection (f). The requirements
27 of section 9-3-3 will apply in the one hundred-year floodplain.

1 Section 3. Section 9-16-1, B.R.C. 1981 is amended to read:

2
3 **9-16-1 General Definitions.**

- 4 (a) The definitions contained in chapter 1-2, “Definitions,” B.R.C. 1981, apply to this title
5 unless a term is defined differently in this chapter.
- 6 (b) Terms identified with the references shown below after the definition are limited to those
7 specific sections or chapters of this title:
- 8 (1) Airport influence zone (AIZ).
 - 9 (2) Floodplain regulations (Floodplain).
 - 10 (3) Historic preservation (Historic).
 - 11 (4) Inclusionary housing (Inclusionary Housing).
 - 12 (5) Residential growth management system (RGMS).
 - 13 (6) Solar access (Solar).
 - 14 (7) Wetlands Protection (Wetlands).
 - 15 (8) Signs (Signs).
 - 16 (9) Critical Facilities and Lodging Facilities (Critical Facilities).

- 17 (c) The following terms as used in this title have the following meanings unless the context
18 clearly indicates otherwise:

19 ...

20 “Accredited levee or provisionally accredited levee” means a system of artificial
21 embankment(s) or flood control structure(s) used for property protection, flood control, and flood
22 hazard mitigation accredited or provisionally accredited and mapped Zone X (shaded) by the
23 Federal Emergency Management Agency (FEMA) under the National Flood Insurance Program
24 (NFIP). (Floodplain and Critical Facilities)

25 ...

26 “Area of special flood hazard” means the land in the floodplain subject to a one percent or
27 greater chance of flooding in any given year. Such areas may be designated as Zones A, AO,
28 AH, AE and A1-30 on the FIRM for the City of Boulder. (Floodplain)

29 “At-risk population facility” means a pre-school, public or private primary or secondary school,
30 before and after school care center with twelve or more students, daycare center with twelve or
31 more children, group home, or assisted living residential or congregate care facility with twelve

1 or more residents. At-risk population facility is also included in the definition of “critical
2 facility.” (Floodplain and Critical Facilities)

3 ...

4 “Base flood elevation” is the computed elevation to which floodwater is anticipated to rise
5 during the one hundred-year flood. (Floodplain)

6 “Basement” means any enclosed area of a building having its lowest floor a minimum of two feet
7 below grade level on all sides. (Floodplain and Critical Facilities)

8 ...

9 “Change in a watercourse” means any change in an existing thalweg, bed, or bank of a
10 watercourse. (Floodplain)

11 ...

12 “Conveyance zone” means those portions of the floodplain required for the passage or
13 conveyance of the one hundred-year flood. The conveyance zone is delineated based on an equal
14 encroachment methodology (measured in volume of water), which is applied to the floodplain
15 from the edges of the flood channel to a point where the one hundred-year flood profile will be
16 raised no more than six inches, after considering a reasonable expectation of blockage at bridges
17 and other obstructions by flood borne debris. The city may, in its discretion, delineate the
18 conveyance zone on city owned land or right of way based on unequal encroachment to
19 minimize delineation on other properties. The conveyance zone is equivalent to a floodway
20 delineation based on a six inch rise. (Floodplain and Critical Facilities)^[c1]

21 ...

22 “Crawl space” means the enclosed area contained inside the foundation walls and below the
23 habitable floor of a structure. Crawl spaces having the lowest floor a minimum of two feet below
24 grade level on all sides shall be considered a basement, and not a crawl space. (Floodplain)

25 “Critical facility” means any structure or related -infrastructure, the loss of which may result in
26 severe hazards to public health and safety or may interrupt essential services and operations for
27 the community at any time before, during, and after a flood. Critical facilities are classified as
28 follows: (1) eEssential sServices fFacility, (2) hHazardous mMaterial fFacility, and (3) aAt-risk
29 pPopulations fFacility. (Floodplain and Critical Facilities)

30 ...

31 “Development” means any change to improved or unimproved real estate, including, without
32 limitation, constructing, relocating, rehabilitating, reconstructing or expanding or enlarging (but
33 not maintaining) a building or other structure or portion thereof, or establishing or changing a

1 use, or mining, dredging, filling, grading, paving, or excavation. (Floodplain and Critical
2 Facilities)

3
4 “Essential services facility^[JLP2]” means any facility providing essential services that, if flooded,
5 may result in severe hazards to public health and safety or interrupt essential services and
6 operations for the community at any time before, during, or after a flood that include without
7 limitation, public safety, emergency response, emergency medical, designated emergency
8 shelters, communications, public utility plant facilities and equipment, and government
9 operations. Examples of essential services facilities include without limitation the following:

- 10 (1) Public safety facilities such as police stations, fire and rescue stations, and
11 emergency operation centers;
- 12 (2) Emergency response facilities, such as emergency vehicle and equipment storage,
13 and essential governmental work centers for continuity of government operations;
- 14 (3) Emergency medical facilities, such as hospitals, emergency care, urgent care, and
15 ambulance services but excluding clinics, doctors offices, and non-urgent care
16 medical facilities;
- 17 (4) Shelters designated by the city manager that will be used during or after a flood
18 for displaced persons;
- 19 (5) Communication facilities, such as main hubs for telephone, main broadcasting
20 equipment for television systems, radio and other emergency warning systems,
21 but excluding towers, poles, lines, cables, and conduits;
- 22 (6) Public utility plant facilities and essential equipment for treatment, generation,
23 storage, pumping, and distribution such as hubs for water, wastewater, power, and
24 gas but excluding hydro electric facilities, towers, poles, power lines, buried
25 pipelines, transmission lines, distribution lines, and service lines;
- 26 (7) Essential governmental facilities necessary for operations including, without
27 limitation, facilities where permanent records, as defined by an agency’s data
28 retention policy, public records are stored, courts, jails, building permitting and
inspection services, government administration and management, departments
that manage utilities and transportation systems, information technology
departments, finance departments, health departments, the county commissioner’s
office, the city manager’s office, and maintenance and equipment centers}; and
- (8) Air transportation lifelines, such as an airport or heliport, and structures serving
emergency functions, and associated infrastructure such as (aviation control
towers, air traffic control centers, and emergency equipment aircraft hangars).

1 Essential service facility is also included in the definition of “critical facility.” (Floodplain and
2 Critical Facilities)

3 ...

4 “Exceptional hardship” means a substantially disproportionate burden in relationship to the
5 benefit to be derived from conformance with the requirements of this title. (Floodplain)

6 ...

7 “Existing manufactured home park or subdivision” means a manufactured home park for which
8 the construction of facilities for servicing the lots on which the manufactured homes are to be
9 affixed (including, at a minimum, the installation of utilities, the construction of streets, and
10 either final site grading or the pouring of concrete pads) was completed prior to July 12, 1978.
(Floodplain)

11 ...

12 “Expansion or enlargement” of a structure” means any addition of an exterior wall to the
13 structure or any addition to the floor area of the structure, whether under, at, or above grade, and
14 whether or not the external dimensions of the structure are changed, or the reconstruction of a
15 flood-damaged portion of a structure, so long as such expansion, enlargement or reconstruction
does not constitute a “substantial modification” or a “substantial improvement.” (Floodplain and
Critical Facilities)

16 “Expansion to existing manufactured home park or subdivision” means the preparation of
17 additional sites by the construction of facilities for servicing the lots on which the manufactured
18 homes are to be affixed (including, without limitation, the installation of utilities, the
19 construction of streets, final site grading, or the pouring of concrete pads). (Floodplain)

20 ...

21 “FEMA” means the Federal Emergency Management Agency. (Floodplain and Critical
Facilities)

22 ...

23 "Five hundred-year flood" means a flood having a 0.2 percent chance of occurring in any year.
24 (Floodplain and Critical Facilities)

25 “Flood” or “flooding” means a general or temporary condition of partial or complete inundation
26 of normally dry land areas from a watercourse that temporarily overflows the boundaries within
27 which it is ordinarily confined or from the rapid accumulation of runoff of surface water caused
by rain, snow melt, flow blockage, or any other source. (Floodplain and Critical Facilities)

28 “Flood channel” means a natural or artificial watercourse with a definite bed and banks which
periodically or continuously conducts flowing water and is shown on the Flood Channel

1 Inventory Map prepared by the city's Utility Division of the Public Works Department.
2 (Floodplain)

3 ~~“Flood fringe” means those portions of the floodplain that are not in the conveyance zone or in
4 the high hazard zone. (Floodplain)~~

5 “Flood Insurance Rate Map (FIRM)” means the official map on which FEMA has delineated
6 both the areas of special flood hazard and the risk premium zones applicable to the community.
(Floodplain and Critical Facilities)

7 “Flood insurance study (FIS)” means the official report provided by the Federal Emergency
8 Management Agency that included flood profiles, the Flood Boundary-Floodway Map, and the
9 water surface elevations of the base flood. (Floodplain)

10 “Flood profile” means a graph showing the elevations of the floodwater surface and the
11 elevations of the underlying land as a function of distance along a path of flow. (Floodplain)

12 “Flood protection elevation” means ~~the following an elevation of:~~

13 (1) In the one hundred-year floodplain, an elevation of:

14 ~~1A) T~~two feet above the elevation of the water surface of a one hundred-year
15 flood as determined pursuant to sections 9-3-2 through 9-3-8, B.R.C. 1981, or, if no such
16 elevation is determined, two feet above the highest grade adjacent to a structure; or

17 ~~2B) T~~two feet above the base flood elevation in AE zones or two feet above the
18 flood depth number indicated for AO zones on the FIRM for the City of Boulder,
19 whichever is higher.

20 (2) In the five hundred-year floodplain, the lower of the following elevations:

21 ~~A) -O~~one foot above the water surface of a five hundred-year flood under these
22 standards in section 9-3-2 through 9-3-8~~5~~, and section 9-9-23 B.R.C., 1981; or

23 ~~B) T~~the one hundred-year flood protection elevation (Floodplain and Critical
24 Facilities)

25 “Floodplain” means the area that is susceptible to being inundated by a flood. Unless the
26 context clearly indicates otherwise, “floodplain” refers to the one hundred-year floodplain.
27 (Floodplain).

28 “Floodplain development permit” means any permit granted under the terms and conditions of
sections 9-3-2 through 9-3-8, and section 9-9-23, B.R.C. 1981, for development on land in a
floodplain. (Floodplain and Critical Facilities)

“Floodplain, five hundred-year” means the area inundated by a flood having a 0.2 percent or
greater chance of occurring in any given year. (Floodplain and Critical Facilities)

1 “Floodplain, one hundred-year” means the area inundated by a flood having a one percent or
2 greater chance of occurring in any given year. (Floodplain)

3 “Floodproofing” means any combination of structural and nonstructural changes, modifications,
4 or adjustments to structures or real property which reduce or eliminate flood damage to improved
5 or unimproved real property, water and sanitary facilities, structures and their contents.
(Floodplain and Critical Facilities)

6 “Floodway, FEMA regulatory” means the channels of watercourses and the adjacent land areas
7 that must be reserved in order to discharge the base flood without cumulatively increasing the
8 water surface elevation more than one foot. (Floodplain)

8 ...

9 “Hazardous material” means any material used, generated, or stored at a facility of a type and in
10 a quantity that would classify the facility as a hazardous materials facility. (Floodplain and
11 Critical Facilities)

12 “Hazardous material building” means any structure on a hazardous materials facility in which
13 hazardous material is used, generated, or stored. (Floodplain)

14 “Hazardous material facility” means a structure or group of structures that is:

15 (1) sA facility subject to Section 303 of the Emergency Planning and Community
16 Right-to-Know Act, 42 USC §11003, because it has ~~on site~~ an “Extremely
17 Hazardous Substance” on site in quantities that meet or exceed the “Threshold
18 Planning Quantities” established by the United States Environmental Protection
19 Agency and listed at 40 CFR Part 355, Appendix A and Appendix B;:

20 (2) uUnless covered by subpart (1) above, facilities storing hazardous material as
21 defined by Department of Transportation regulations at 49 CFR Parts 171-180 but
22 only to the extent that the facility is storing the hazardous material in the “Bulk
23 Packaging” container in which it was delivered as that term is defined at 49 CFR
24 171.8;:

25 (3) sA facility storing a hazardous substance of the type and quantity listed by §29-
26 22-107,C.R.S; or:

27 (4) A facility regulated as a transfer facility under Colorado hazardous waste
28 regulations at 6 CCR 1007-3, Part 263.

Hazardous material facility is also included in the definition of “critical facility.”

(Floodplain and Critical Facilities)

29 "Hazardous substance" means any substance, as determined from time to time by the city
30 manager pursuant to the rule making authority granted by subsection 9-3-2(c), B.R.C. 1981, that
31 is flammable, radioactive, toxic, or explosive, and that in times of flooding could be released in
32 sufficient quantities to be harmful to humans, animals, or plant life. (Floodplain)

1 ...

2 “High hazard zone” means those portions of the floodplain where an unacceptably high hazard to
3 human safety exists defined as those areas where the product number of flow velocity (measured
4 in ft./sec.) times flow depth (measured in feet) equals or exceeds four, or where flow depths
equal or exceed four feet. (Floodplain and Critical Facilities)

5 ...

6 “Intended for human occupancy” means, as applied to structures, capable of and likely to be used
7 for residential habitation, or for commercial, industrial or governmental occupation by persons
8 on a regular basis. Examples of structures normally not intended for human occupancy include,
9 without limitation, garages useable solely for the parking of vehicles or storage, open air
10 carwashes, unheated pavilions, porches or patio covers, crawl spaces, flood resistant enclosures
useable solely for building access, barns and other agricultural buildings, garden storage sheds,
ATMs, and mausoleums. (Floodplain)

11 ...

12 Lodging facility” means a hotel, motel, dormitory, bed and breakfast, or hostel, as defined in the
13 Boulder Revised Code. -(Floodplain and Critical Facilities)

14 ...

15 “Lowest floor” means the lowest floor of the lowest enclosed area (including basement or crawl
16 space). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building
17 access or storage, in an area other than a basement area, is not considered a building's lowest
18 floor, provided that such enclosure is not built so as to render the structure in violation of the
applicable design requirements of sections 9-3-2 through 9-3-8, and section 9-9-23, B.R.C. 1981.
(Floodplain and Critical Facilities)

19 ...

20 “Maintenance” means any activity undertaken to repair or prevent the deterioration, impairment
21 or failure of any stream, previously constructed improvement or structure including, without
22 limitation: the removal of sediment and debris, installation of erosion and sediment control
23 devices and the replacement of structural components. Maintenance does not include substantial
24 modifications, substantial improvements, total replacement of existing facilities or total
reconstruction of a facility. (Floodplain and Critical Facilities)

25 ...

26 “Manufactured home” means a structure, transportable in one or more sections, which is built on
27 a permanent chassis and is designed for use with or without a permanent foundation when
28 connected to the required utilities. The term “manufactured home” does not include a
“recreational vehicle.” (Floodplain)

1 “Manufactured home park or manufactured home subdivision” means any lot or tract of land
2 designed, used, or intended to provide a location or accommodation for one or more
3 manufactured homes and upon which any manufactured home or homes are parked or located,
4 whether or not the lot or tract or any part thereof is held or operated for profit, on which
5 construction was completed on or after July 12, 1978. (Floodplain)

6 ...

7 “Moveable object” means an item or material not anchored to the ground that is subject to being
8 transported by water, including, without limitation, a manufactured home not anchored to a
9 permanent foundation, a tank, a trash dumpster, lumber, and other materials, but not a motor
10 vehicle. (Floodplain)

11 ...

12 “New construction” means structures for which the “start of construction” commenced on or
13 after July 12, 1978, and includes any subsequent improvements to such structures. (Floodplain
14 and Critical Facilities)

15 “New manufactured home park or subdivision” means a manufactured home park or subdivision
16 for which the construction of facilities for servicing the lots on which the manufactured homes
17 are to be affixed (including, at a minimum, the installation of utilities, the construction of streets,
18 final site grading, or pouring of concrete pads) is completed on or after July 12, 1978.
19 (Floodplain)

20 “Nonresidential structure” means any structure or any portion of a structure used exclusively for,
21 or designed as and capable of being used for, office, commercial, industrial, or governmental
22 occupation. (Floodplain)

23 ...

24 “Obstruction” means any item or material not constituting a moveable object in, along, across, or
25 projecting into the floodplain that might impede, retard, or change the direction of a flow of
26 water, either by itself or by catching or collecting debris carried by such water, in a way that the
27 city manager determines would increase the flood hazard to adjacent properties. (Floodplain)

28 ...

29 “One hundred-year flood” means a flood having a one percent chance of occurring in any year.
30 (Floodplain and Critical Facilities)

31 ...

32 “Reconstruction” means exact replacement of an existing structure or portion thereof or exact
33 structural repair of a damaged structure. (Floodplain and Critical Facilities)

1 “Recreational vehicle” means a vehicle which is: 1) built on a single chassis; 2) four hundred
2 square feet or less when measured at the largest horizontal projections; 3) designed to be self-
3 propelled or permanently towable by a light duty truck; and 4) designed primarily not for use as
4 a permanent dwelling but as temporary living quarters for recreational, camping, travel, or
5 seasonal use. (Floodplain)

5 ...

6 “Rehabilitation” means any improvement, maintenance, or remodeling made to the interior or
7 exterior of any existing structure or the reconstruction of a deteriorated or non-flood-damaged
8 portion of an existing structure so long as such improvement or reconstruction does not
9 constitute an “expansion or enlargement of a structure,” “substantial modification,” or a
10 “substantial improvement.” (Floodplain)

10 ...

11 “Residential structure” means any structure or any portion of a structure that is used for, or
12 designed as and capable of being used for, the temporary or permanent domicile of persons,
13 including, without limitation, a dwelling, a boarding house, a hotel, a motel, and similarly used
14 structures. (Floodplain)

14 ...

15 “Start of construction” means the date the building permit was issued, provided the actual start of
16 construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement
17 was within one hundred eighty days of the permit date. The actual start means either the first
18 placement of permanent construction of a structure on a site such as the pouring of slab or
19 footings, the installation of piles, the construction of columns, or any work beyond the stage of
20 excavation; or the placement of a manufactured home on a foundation. (Floodplain and Critical
21 Facilities)

20 ...

21 “Structure” means a building or other roofed construction, a basement, a wall, a fence, a
22 manufactured home, or a storage tank. (Floodplain and Critical Facilities)

23 ...

24 “Substantial damage” means damage of any origin sustained by a structure whereby the cost of
25 restoring the structure to its before-damaged condition would equal or exceed fifty percent of the
26 market value of the structure before the damage occurred. (Floodplain)

26 “Substantial improvement” means any repair, reconstruction, rehabilitation, addition, or
27 improvement of a structure, the cost of which equals or exceeds fifty percent of the market value
28 of the structure before the “start of construction” of the improvement. This term includes
structures which have incurred “substantial damage,” regardless of the actual repair work

1 performed. For the purposes of this definition, “substantial improvement” is considered to occur
2 when the first alteration of any wall, ceiling, floor, or other structural part of the building
3 commences, whether or not that alteration affects the external dimensions of the structure. The
4 term does not, however, include either: 1) any project for improvement of a structure to comply
5 with existing state or local health, sanitary, or safety code specifications which are solely
6 necessary to assure safe living conditions or 2) any alteration of a structure listed on the National
7 Register of Historic Places or the Colorado Inventory of Historic Places or designated as an
8 individual landmark under section 9-11-2, “City Council May Designate Or Amend Landmarks
9 And Historic Districts,” B.R.C. 1981. (Floodplain and Critical Facilities)

10 ...

11 “Substantial modification” means any expansion or enlargement of a structure which equals or
12 exceeds fifty percent of the floor area of the structure intended for human occupancy, considered
13 cumulatively, commencing July 12, 1978. (Floodplain and Critical Facilities)

14 ...

15 Section 4. This ordinance shall become effective on the later of _____, 2013^[JLP3],
16 or 30 days after its final passage by the City Council. This ordinance shall apply to all permits
17 and development applications submitted to the city after the effective date of its passage.

18 Section 4. This ordinance is necessary to protect the public health, safety, and welfare of
19 the residents of the city, and covers matters of local concern.

20 Section 5. The City Council deems it appropriate that this ordinance be published by title
21 only and orders that copies of this ordinance be made available in the office of the city clerk for
22 public inspection and acquisition.

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INTRODUCED, READ ON FIRST READING, AND ORDERED PUBLISHED BY

TITLE ONLY this ____ day of _____, 2013.

Mayor

Attest:

City Clerk on behalf of the
Director of Finance and Record

READ ON SECOND READING, PASSED, ADOPTED, AND ORDERED

PUBLISHED BY TITLE ONLY this ____ day of _____, 20__.

Mayor

Attest:

City Clerk on behalf of the
Director of Finance and Record