

Atlas 14 – Summary of Recommended Code Changes

This document provides a summary of the proposed Atlas 14 related code amendments in order of appearance in the draft ordinance (dated August 14, 2019). Items that are highlighted are revisions from the first draft of the ordinance posted in December 2018.

Parts 1 and 2 – City Code Section 25-2, Subchapter F (sections 2.2 and 3.4.2)

These sections revise the determination of the maximum building height for a building that is subject to Subchapter F and is in the 100-year floodplain. The maximum building height for a building in the 100-year floodplain increases from 32 feet to 35 feet as measured from natural grade.

Parts 3 and 4 – 25-7-2 (*Definitions*)

- Add a definition of “Atlas 14,” which is referenced in subsequent sections.
- Revise the definitions of “100-year floodplain” and “25-year floodplain” to refer to new code sections that describe how the floodplain areas are determined (see Part 6).

Part 5 – existing City Code Section 25-7-6, renumbered to 25-7-8 (*Computation of Stormwater Runoff*)

- Clarify that the calculation of the 500-year floodplain is based on the existing impervious cover in a watershed or drainage area, rather than the maximum amount of impervious cover allowed under zoning or watershed regulations.

Part 6 – new City Code Section 25-7-6 (*Determination of the 100-Year Floodplain*)

- Revise the methodology for determining the 100-year floodplain to reflect the Atlas 14 rainfall data. This code amendment provides three options for determining the 100-year floodplain in the interim period until floodplain studies have been updated by the city. An applicant can use (1) the Atlas 14 data to calculate the 100-year floodplain under fully developed conditions; (2) use the current FEMA 500-year floodplain; or (3) use the current 500-year rainfall data to determine the limits of the floodplain. The exception to this methodology is the floodplain of the Colorado River; the code amendment specifies that the 100-year regulatory floodplain for the Colorado River remains the same (i.e., the current 100-year floodplain).

New City Code Section 25-7-7 (*Determination of the 25-Year Floodplain*)

- Revise the methodology for determining the 25-year floodplain to reflect Atlas 14 data. This amendment provides two options for determining the 25-year floodplain. An applicant can either use (1) the Atlas 14 data to calculate the 25-year floodplain under fully developed conditions; or (2) use the current 100-year floodplain. The exception to this methodology is the floodplain of the Colorado River; the code amendment specifies that the 25-year regulatory floodplain for the Colorado River remains the same (i.e., the current 25-year floodplain).

Part 7 – City Code Section 25-7-93 (*General Exceptions*)

- Subsection (A)(2) is revised to remove an existing exception and create a new exception for constructing a residential building within the 100-year floodplain. The existing exception allows for the construction of a single-family or duplex residential building within the 100-year floodplain if the lot was platted before September 25, 1983. This provision is removed and replaced with a broader redevelopment exception that allows a new residential building to encroach within the 100-year floodplain if it is replacing an existing legally constructed residential building and does not increase the number of dwelling units on the property – regardless of plat date. The previous language under this section specified that it applies only single-family buildings. This has been revised such that it applies to all residential uses.
- Subsection (A)(4) is revised to expand the existing exception for development within the 100-year floodplain of Lady Bird Lake or the Colorado River to also apply to Lake Austin and Lake Travis.
- Subsection (B) is revised to clarify that development approved under the listed exceptions must meet specific criteria. Current code lists two criteria under this section: floodproofing and no adverse flooding impact. This amendment includes those two criteria and adds two additional criteria: compensation for floodplain volume and freeboard. The compensation for floodplain volume criterion is currently part of the no adverse flooding impact criterion and is added here for emphasis. The freeboard criterion is also part of the current code. However, the freeboard requirement is being increased from one foot to two feet.

Part 8 – City Code Section 25-7-95 (*Requirements for Parking Areas*)

- This section is revised to allow staff to have the administrative authority to approve parking areas in the 25-year or 100-year floodplains that are accessory to buildings that are approved under the exemptions in sections 25-7-93 and 25-7-96.

Part 9 – City Code Section 25-7-96 (*Requirements in the 25-Year Floodplain*)

- Subsection (A) is reworded for clarity.
- Subsection (B)(2) is revised to establish an equivalent redevelopment exception for residential development within the 25-year floodplain (see the description of Part 7, above).
- Subsection (C) is revised to clarify that development approved under the listed exceptions must meet specific criteria, as explained above in Part 7, subsection (B).

Part 10 – City Code Section 25-8-1 (*Definitions*)

- The definition of “floodplain modification” is revised to refer to the new section on determining the 100-year floodplain (Section 25-7-6).

Part 11 – City Code Section 25-8-92 (*Critical Water Quality Zones Established*)

- Subsections (A), (C), and (F) regarding critical water quality zone boundaries are revised to refer to the new section on determining the 100-year floodplain (Section 25-7-6).

Part 12 – City Code Section 25-8-121 (*Environmental Resource Inventory Requirement*)

- Subsection (A) is revised to remove floodplains from the list of property characteristics that require preparation of an environmental resource inventory.

Part 13 – Subsection 202.1 (*Amended Definitions*) of City Code Section 25-12-3 (*Local Amendments to the Building Code*)

- The definitions of “base flood,” “design flood,” “flood hazard area,” and “floodway” are amended to be consistent with the new methodology for determining the 100-year and 25-year floodplains.

Part 14 – Subsection 1612.3 (*Establishment of Flood Hazard Areas*) of City Code Section 25-12-3 (*Local Amendments to the Building Code*)

- Subsection 1 is being revised at the request of FEMA to ensure that the current Flood Insurance Studies and Flood Insurance Rate Maps are referenced.
- Subsection 2 is revised to clarify that the establishment of flood hazard areas is linked back to the definitions of 100-year floodplain and 25-year floodplain.

Part 15 – Subsection 1612.4.1 (*Freeboard*) of City Code Section 25-12-3 (*Local Amendments to the Building Code*)

- The minimum freeboard requirement for buildings in the floodplain is increased from one foot to two feet. This means that the finished floor elevation of the building must be at least two feet above the 100-year floodplain.

Part 16 – Subsection G103.3 (*Determination of Design Flood Elevations*) of Appendix G (*Flood Resistant Construction*) of City Code Section 25-12-3 (*Local Amendments to the Building Code*)

- Subsection 2 is revised to clarify that the determination of design flood elevations is linked back to the definition of 100-year floodplain.

Part 17 – Subsection 320.2 (*Establishment of Flood Hazard Areas*) of City Code Section 25-12-133 (*Local Amendments to the 2015 Uniform Mechanical Code*)

- Subsection 2 is revised to clarify that the establishment of flood hazard areas is linked back to the definitions of 100-year and 25-year floodplain.

Part 18 – Subsection 321.8 (*Establishment of Flood Hazard Areas*) of City Code Section 25-12-153 (*Local Amendments to the Uniform Plumbing Code*)

- Subsection 2 is revised to clarify that the establishment of flood hazard areas is linked back to the definitions of 100-year floodplain and 25-year floodplain.

Parts 19, 20, 21, 22 – various sections of City Code Section 25-12-243 (*Local Amendments to the International Residential Code*)

- Various definitions are revised to be consistent with the revised definitions and new methods of determining the 100-year floodplain and 25-year floodplain.

Part 23 – Subsection R322.2.1 (*Elevation requirements*) of the City Code Section 25-12-243 (*Local Amendments to the International Residential Code*)

- The minimum freeboard requirement for residential buildings in the floodplain is increased from one foot to two feet. This means that the finished floor elevation of the building must be at least two feet above the 100-year floodplain.

Part 24 – Subsection R322.2.6 of City Code Section 25-12-3 (*Local Amendments to the International Residential Code*)

- This section states that the means of egress criteria for residential building permits is determined accordingly:
 - *For single-family condo regime buildings:* Means of egress is determined at the time of site plan approval if the site plan was approved between December 1, 2017 and the effective date of this ordinance
 - *For single-family buildings:* Means of egress is determined accordingly:
 - at the time of preliminary plan if the preliminary plan was submitted for approval between December 1, 2014 and the effective date of this ordinance; or
 - at the time of final plat if the final plat was approved between December 1, 2017 and the effective date of this ordinance.
 - Means of egress for residential buildings for all other situations not described above is determined at the time of building permit application.

Parts 25, 26, 27, 28, 29, 30, and 31 – various sections of City Code Chapter 30-4 (*Drainage*) and the 30-5 (*Environment*)

- Corresponding sections of Chapters 30-4 and 30-5 are amended to match the proposed changes to Chapters 25-7 and 25-8.

Part 32 – This section refers to the effective date of the ordinance, which will be determined by the City Council.

ORDINANCE NO.

AN ORDINANCE AMENDING CITY CODE CHAPTERS 25-2, 25-7, 25-8, 25-12, 30-4 AND 30-5 RELATING TO REGULATION OF DEVELOPMENT WITHIN THE 25-YEAR AND 100-YEAR FLOODPLAINS.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF AUSTIN:

PART 1. Section 2.2 (*Building Height*) of City Code Chapter 25-2, Subchapter F, is amended to read as follows:

§ 2.2. - BUILDING HEIGHT.

Except where these regulations are superseded, the maximum building height for development subject to this Subchapter is:

- A. 32 feet for development located outside the 100-year floodplain;
- and
- B. 35 feet for development located in the 100-year floodplain. [~~is 32 feet.~~]

Section 25-2-531 (*Height Limit Exceptions*) does not apply to development subject to this Subchapter, except for a chimney, vent, antenna, or energy conservation or production equipment or feature not designed for occupancy. Building height shall be measured under the requirements defined in Section 3.4.

PART 2. Subsection 3.4.2 of City Code Chapter 25-2, Subchapter F, Section 3.4 (*Height*) is amended to read as follows:

3.4.2. The grade used in the measurement of height for a building or setback plane shall be the lower of natural grade or finished grade, except height shall be measured from natural [~~finished~~] grade if the site is located in the 100-year floodplain. [~~is~~]

- A. ~~The site's grade is modified to elevate it out of the 100-year floodplain; or~~
- B. ~~The site is located on the approximately 698.7 acres of land known as the Mueller Planned Unit Development, which was zoned as a planned unit development (PUD) district by Ordinance Number 040826-61.]~~

1 **PART 3.** City Code Section 25-7-2 (*Definitions*) is amended to add a definition of
2 “Atlas 14” and to renumber the other definitions in this section accordingly:

- 3 (2) ATLAS 14 means the National Oceanic and Atmospheric
4 Administration’s Precipitation-Frequency Atlas 14 of the United States,
5 Volume 11, Version 2.0: Texas.

6 **PART 4.** City Code Section 25-7-2 (*Definitions*) is amended to change the definitions
7 of “100-Year Floodplain” and “25-Year Floodplain” to read as follows:

- 8 (10) 100-YEAR FLOODPLAIN means an area within a floodplain subject to a
9 one percent or greater chance of flooding in any year as calculated in
10 accordance with Section 25-7-6 (*Determination of the 100-Year*
11 *Floodplain*) [~~the 100-year floodplain calculated under fully developed~~
12 ~~conditions as prescribed by the Drainage Criteria Manual~~].
- 13 (11) 25-YEAR FLOODPLAIN means an area within a floodplain subject to a
14 four percent or greater chance of flooding in any year as calculated in
15 accordance with Section 25-7-7 (*Determination of the 25-Year*
16 *Floodplain*) [~~the 25-year floodplain calculated under fully developed~~
17 ~~conditions as prescribed by the Drainage Criteria Manual~~].

18 **PART 5.** City Code Section 25-7-6 (*Computation of Stormwater Runoff*) is amended
19 to read as follows:

20 **§ 25-7-~~8~~[6] - COMPUTATION OF STORMWATER RUNOFF.**

21 (A) Except as provided in Subsection (B), stormwater [~~Stormwater~~] runoff shall
22 be computed on the basis of a fully developed contributing drainage area or watershed
23 as determined under the Drainage Criteria Manual.

24 (B) When determining the runoff generated from the 500-year flood for the
25 purpose of determining the 100-year floodplain under Subsection (B) of Section 25-7-6
26 (*Determination of the 100-Year Floodplain*), stormwater runoff shall be computed on
27 the basis of an existing developed contributing drainage area or watershed.

28 **PART 6.** City Code Chapter 25-7 (*Drainage*) is amended to add a new Section 25-7-6
29 and 25-7-7 to read as follows:

30 **§ 25-7-6 DETERMINATION OF THE 100-YEAR FLOODPLAIN.**

1 For purposes of this chapter, the 100-year floodplain shall be:

- 2 (A) For areas amended to incorporate Atlas 14 data, the 100-year
3 floodplain calculated under fully developed conditions as
4 prescribed by the Drainage Criteria Manual as amended to
5 incorporate Atlas 14 data;
- 6 (B) For areas not yet amended to incorporate Atlas 14 data, the 500-
7 year floodplain either as depicted on the FEMA Flood Insurance
8 Rate Map as of January 6, 2016, as subsequently revised, or as
9 calculated under existing conditions as prescribed by the Drainage
10 Criteria Manual using data predating Atlas 14; or
- 11 (C) For the Colorado River, the 100-year floodplain as depicted on the
12 FEMA Flood Insurance Rate Map dated January 6, 2016, or as
13 subsequently revised.

14 **§ 25-7-7 DETERMINATION OF THE 25-YEAR FLOODPLAIN.**

15 For purposes of this chapter, the 25-year floodplain shall be:

- 16 (A) For areas amended to incorporate Atlas 14 data, the 25-year
17 floodplain calculated under fully developed conditions as
18 prescribed by the Drainage Criteria Manual as amended to
19 incorporate Atlas 14 data;
- 20 (B) For areas not yet amended to consider Atlas 14 data, the 100-year
21 floodplain calculated under fully developed conditions as
22 prescribed by the Drainage Criteria Manual using data predating
23 Atlas 14; or
- 24 (C) For the Colorado River, the 25-year floodplain as calculated under
25 exiting conditions as prescribed by the Drainage Criteria Manual
26 using data predating Atlas 14.

27 **PART 7.** City Code Section 25-7-93 (*General Exceptions*) is amended to read as
28 follows:

29 **§ 25-7-93 - GENERAL EXCEPTIONS.**

- 1 (A) A site plan with a proposed building or parking area that encroaches on
2 the 100-year floodplain may be approved if the encroachment is:
- 3 (1) a parking area that is smaller than 5,000 square feet or an
4 unoccupied structure that has an area of less than 1,000 square feet,
5 and the director determines that the proposed development:
- 6 (a) will not have an adverse effect on the 100-year floodplain or
7 surrounding properties; and
- 8 (b) otherwise complies with the requirements of this title;
- 9 (2) a new building for residential use that replaces an existing legally
10 constructed building for residential use on the same property and
11 that does not increase the number of legal dwelling units on the
12 property; [a single-family or duplex residential structure in a
13 subdivision;
- 14 (a) ~~recorded before September 25, 1983; and~~
- 15 (b) ~~in which only one residential structure is built on a single~~
16 ~~lot;]~~
- 17 (3) a building authorized by a waterway development permit issued
18 under Chapter 9-10 before September 25, 1983; or
- 19 (4) a building in the 100-year floodplain of:
- 20 (a) Lady Bird Lake; [øf]
- 21 (b) the Colorado River downstream from Longhorn Dam;
- 22 (c) Lake Austin; or
- 23 (d) Lake Travis.
- 24 (B) To be approved under this section, [A] development [application that may
25 be approved under this section] must:
- 26 (1) be no lower than two feet above the 100-year floodplain, as
27 measured from the lowest floor elevation of any proposed building

1 [comply with the flood proofing requirements of Chapter 25-12,
2 Article 1 (*Building Code*); and];

3 (2) comply with the requirements in Chapter 25-12, Article 1,
4 Section 25-12-3 Appendix G (*Flood Resistant Construction*)
5 and Section 1612 (*Flood Loads*);

6 (3) compensate for the floodplain volume displaced by the
7 development; and

8 (4) result in no additional adverse flooding impact on other properties,
9 as determined by the director.

10 **PART 8.** City Code Section 25-7-95 (*Requirements for Parking Areas*) is amended to
11 read as follows:

12 **§ 25-7-95 - REQUIREMENTS FOR PARKING AREAS.**

13 (A) This section establishes requirements that apply to the development of a
14 parking area.

15 (B) A development application with a proposed parking area that encroaches
16 on the 100-year floodplain may be approved if:

17 (1) the level of water detention or waterflow in the parking area during
18 the 100-year storm does not exceed:

19 (a) an average depth of eight inches; or

20 (b) a maximum depth of 12 inches at any point; and

21 (2) appropriate signs, approved by the director, are posted to notify
22 persons that the water detention or waterflow in the parking lot may
23 exceed a depth of eight inches.

24 (C) Notwithstanding the requirements of Subsection (B), a development
25 application with a proposed parking area that encroaches on the 25-year
26 floodplain or the 100-year floodplain may be approved if the parking area
27 is[is] accessory to a building approved under 25-7-93 (*General Exceptions*)
28 or 25-7-96 (*Requirements in the 25-Year Floodplain*).

- ~~[(1) accessory to a single-family or duplex residential structure on a lot in a subdivision recorded before September 25, 1983;~~
- ~~(2) authorized by a waterway development permit issued under Chapter 9-10 before September 25, 1983; or~~
- ~~(3) in the 100-year floodplain of:

 - ~~(a) Lady Bird Lake; or~~
 - ~~(b) the Colorado River downstream from Longhorn Dam.]~~~~

PART 9. City Code Section 25-7-96 (*Requirements in the 25-Year Floodplain*) is amended to read as follows:

§ 25-7-96 - REQUIREMENTS IN THE 25-YEAR FLOODPLAIN.

- (A) The [This section establishes] requirements of this section [that] apply to development in the 25-year floodplain.
- (B) A development application with a proposed building or parking area that is located on parkland, a golf course, or other public or recreational land and that encroaches on the 25-year floodplain may be approved if:
 - ~~[(1) the building or parking area is located on parkland, a golf course, or other public or recreational land;]~~
 - (1)[(2)] the building, if any, is:
 - (a)[(i)] a restroom or bath facility, concession stand, tool shed, or pump house, with an area of less than 1,000 square feet; or
 - (b)[(ii)] a dock that is located in the 25-year floodplain of Lady Bird Lake, Lake Walter E. Long, or Lake Austin and constructed, or proposed to be constructed, in compliance with the regulations of this title; and
 - (2)[(3)] the parking area, if any, is smaller than 5,000 square feet.[;]
 - ~~[(4) the director determines that the proposed development:~~

(a) ~~will not result in additional adverse flooding impact on other properties; and~~

(b) ~~otherwise complies with the requirements of this title.]~~

(C) A development application for a proposed new building for residential use that replaces an existing legally constructed building for residential use may be approved if the building is:

(1) on the same property; and

(2) not increasing the number of legal dwelling units on the property.

(D)~~(C)~~ To be approved under this section, [A] development [application approved under this section] must:

(1) be no lower than two feet above the 100-year floodplain, as measured from the lowest floor elevation of any proposed building;

(2) comply with the requirements in Chapter 25-12, Article 1, Section 25-12-3 Appendix G (*Flood Resistant Construction*) and Section 1612 (*Flood Loads*);

(3) compensate for the floodplain volume displaced by the development;

(4) result in no additional adverse flooding impact on other properties, as determined by the director; and

(5) otherwise comply with the requirements of this title, as determined by the director.

~~[comply with the flood proofing requirements of Chapter 25-12, Article 1 (Building Code).]~~

PART 10. City Code Section 25-8-1 (*Definitions*) is amended to change the definition of “floodplain modification” to read as follows:

(10) FLOODPLAIN MODIFICATION means development that results in any vertical or horizontal change in the cross section of the 100-year floodplain

1 as determined under Section 25-7-6 (*Determination of the 100-Year*
2 *Floodplain*) [~~calculated under fully developed conditions as prescribed by~~
3 ~~the Drainage Criteria Manual~~].
4

5 **PART 11.** Subsections (A), (C), and (F) of City Code Section 25-8-92 (*Critical Water*
6 *Quality Zones Established*) are amended to read as follows:

7 (A) In the water supply rural watersheds, water supply suburban watersheds,
8 and Barton Springs Zone, a critical water quality zone is established along
9 each waterway classified under Section 25-8-91 (*Waterway*
10 *Classifications*).

11 (1) The boundaries of a critical water quality zone coincide with the
12 boundaries of the 100-year floodplain as determined under Section
13 25-7-6 (*Determination of the 100-Year Floodplain*), [~~calculated~~
14 ~~under fully developed conditions as prescribed by the Drainage~~
15 ~~Criteria Manual~~] except:

16 (a) for a minor waterway, the boundaries of the critical water
17 quality zone are located not less than 50 feet and not more than
18 100 feet from the centerline of the waterway;

19 (b) for an intermediate waterway, the boundaries of the critical
20 water quality zone are located not less than 100 feet and not
21 more than 200 feet from the centerline of the waterway;

22 (c) for a major waterway, the boundaries of the critical water
23 quality zone are located not less than 200 feet and not more
24 than 400 feet from the centerline of the waterway; and

25 (d) for the main channel of Barton Creek, the boundaries of the
26 critical water quality zone are located 400 feet from the
27 centerline of the creek.

28 (2) Notwithstanding the provisions of Subsections (A)(1)(a), (b), and (c),
29 a critical water quality zone does not apply to a previously modified
30 drainage feature serving a railroad or public roadway right-of-way
31 that does not possess any natural and traditional character and cannot

1 reasonably be restored to a natural condition, as prescribed in the
2 Environmental Criteria Manual.

3 (C) In an urban watershed, a critical water quality zone is established along
4 each waterway with a drainage area of at least 64 acres. This does not apply
5 in the area bounded by IH-35, Riverside Drive, Barton Springs Road,
6 Lamar Boulevard, and 15th Street.

7 (1) The boundaries of the critical water quality zone coincide with the
8 boundaries of the 100-year floodplain as determined under Section
9 25-7-6 (*Determination of the 100-Year Floodplain*), [~~calculated~~
10 ~~under fully developed conditions as prescribed by the Drainage~~
11 ~~Criteria Manual;~~] provided that the boundary is not less than 50 feet
12 and not more than 400 feet from the centerline of the waterway.

13 (2) Notwithstanding the provisions of Subsection (C)(1), a critical water
14 quality zone does not apply to a previously modified drainage feature
15 serving a railroad or public roadway right-of-way that does not
16 possess any natural and traditional character and cannot reasonably
17 be restored to a natural condition.

18 (F) Critical water quality zones are established along and parallel to the
19 shorelines of the Colorado River downstream of Lady Bird Lake.

20 (1) The shoreline boundary of a critical water quality zone coincides with
21 the river's ordinary high water mark, as defined by Code of Federal
22 Regulations Title 33, Section 328.3 (*Definitions*).

23 (2) The inland boundary of a critical water quality zone coincides with
24 the boundary of the 100-year floodplain as determined under Section
25 25-7-6 (*Determination of the 100-Year Floodplain*) [~~delineated by~~
26 ~~the Federal Emergency Management Agency~~], except that the width
27 of the critical water quality zone, measured horizontally inland, is
28 not less than 200 feet and not more than 400 feet.

29 **PART 12.** Subsection (A) of City Code Section 25-8-121 (*Environmental Resource*
30 *Inventory Requirement*) is amended to read as follows:

31 (A) An applicant shall file an environmental resource inventory with the
32 director for proposed development located on a tract:

- 1 (1) within the Edwards Aquifer recharge or contributing zone;
- 2 (2) within the Drinking Water Protection Zone;
- 3 (3) containing a water quality transition zone;
- 4 (4) containing a critical water quality zone; or
- 5 (5) [~~containing a floodplain; or~~
- 6 (6)] with a gradient of more than 15 percent.

7 **PART 13.** Subsection 202.1 (*Amended Definitions*) of City Code Section 25-12-3 (*Local*
8 *Amendments to the Building Code*) is amended to delete and replace the definitions of
9 “base flood”, “design flood”, “flood hazard area”, and “floodway” with new definitions
10 to read as follows:

11 **BASE FLOOD.** A flood that has the following characteristics:

- 12 1. For areas amended to incorporate Atlas 14 data, a flood that has a
13 one percent chance of being equaled or exceeded in any given year
14 (100-year flood) calculated under fully developed conditions as
15 prescribed by the Drainage Criteria Manual as amended to
16 incorporate Atlas 14 data;
- 17 2. For areas not yet amended to incorporate Atlas 14 data, a flood that
18 has a 0.2 percent chance of being equaled or exceeded in any given
19 year (500-year flood) calculated under the conditions underlying the
20 FEMA Flood Insurance Rate Map as of January 6, 2016, as
21 subsequently revised, or as calculated under existing conditions as
22 prescribed by the Drainage Criteria Manual using data predating
23 Atlas 14; or
- 24 3. For the Colorado River, a flood that has a one percent chance of
25 being equaled or exceeded in any given year (100-year flood)
26 calculated under the conditions underlying the FEMA Flood
27 Insurance Rate Map dated January 6, 2016, or as subsequently
28 revised.

29 **DESIGN FLOOD.** A flood that has the following characteristics:

- 30 1. For areas amended to incorporate Atlas 14 data, a flood associated
31 with an area of a floodplain subject to a one percent or greater chance
32 of being flooded in any year (100-year flood) based on projected full

1 development in accordance with the City of Austin Drainage Criteria
2 Manual as amended to incorporate Atlas 14 data;

- 3 2. For areas not yet amended to incorporate Atlas 14 data, a flood
4 associated with an area of a floodplain subject to a 0.2 percent or
5 greater chance of being flooded in any year (500-year flood)
6 calculated under the conditions underlying the FEMA Flood
7 Insurance Rate Map as of January 6, 2016, as subsequently revised,
8 or as calculated under existing conditions as prescribed by the
9 Drainage Criteria Manual using data predating Atlas 14; or
- 10 3. For the Colorado River, a flood associated with an area of a
11 floodplain subject to a one percent or greater chance of being flooded
12 in any year (100-year flood) as depicted on the FEMA Flood
13 Insurance Rate Map dated January 6, 2016, or as subsequently
14 revised.

15 **FLOOD HAZARD AREA.** An area that has the following characteristics:

- 16 1. For areas amended to incorporate Atlas 14 data, an area within a
17 floodplain subject to a one percent or greater chance of being
18 flooded in any year (100-year flood) based on projected full
19 development in accordance with the City of Austin Drainage
20 Criteria Manual as amended to incorporate Atlas 14 data;
- 21 2. For areas not yet amended to incorporate Atlas 14 data, an area of a
22 floodplain subject to a 0.2 percent or greater chance of being
23 flooded in any year (500-year flood) calculated under the
24 conditions underlying the FEMA Flood Insurance Rate Map as of
25 January 6, 2016, as subsequently revised, or as calculated under
26 existing conditions as prescribed by the Drainage Criteria Manual
27 using data predating Atlas 14; or
- 28 3. For the Colorado River, an area within a floodplain subject to a one
29 percent or greater chance of being flooded in any year (100-year
30 flood) as depicted on the FEMA Flood Insurance Rate Map dated
31 January 6, 2016, or as subsequently revised.

1 **FLOODWAY.** The channel of the river, creek, or other watercourse and
2 the adjacent land areas that must be reserved in order to discharge the
3 base flood without cumulatively increasing the water surface elevation
4 more than a designated height. An area that has the following
5 characteristics:

- 6 1. For the Colorado River, an area with a floodplain subject to a four
7 percent or greater chance of flooding in any year (25-year flood)
8 based on existing developed conditions as prescribed by the
9 Drainage Criteria Manual using data predating Atlas 14; or
- 10 2. For all other rivers, creeks, and watercourses in areas amended to
11 incorporate Atlas 14 data, an area with a four percent or greater
12 chance of flooding in any year (25-year flood) based on a projected
13 full development in accordance with the City of Austin Drainage
14 Criteria Manual as amended to incorporate Atlas 14 data.
- 15 3. For all other rivers, creeks, and watercourses in areas not yet
16 amended to incorporate Atlas 14 data, an area with a one percent or
17 greater chance of flooding in any year (100-year flood) based on a
18 projected full development in accordance with the City of Austin
19 Drainage Criteria Manual using data predating Atlas 14.

20 **PART 14.** Subsection 1612.3 (*Establishment of Flood Hazard Areas*) of City
21 Code Section 25-12-3 (*Local Amendments to the Building Code*) is amended to
22 read as follows:

23 **1612.3 Establishment of flood hazard areas.** Flood hazard areas are:

- 24 1. the areas of special flood hazard areas identified by the Federal
25 Emergency Management Agency in the current [a] scientific and
26 engineering report entitled, "The Flood Insurance Study (FIS) for
27 Williamson County, Texas and Incorporated Areas" dated
28 December 20, 2019, with accompanying Flood Insurance Rate
29 Maps (FIRM) dated December 20, 2019, the current scientific and
30 engineering report entitled "The Flood Insurance Study for Travis
31 County, Texas and Incorporated Areas" dated January 6, 2016, with
32 accompanying Flood Insurance Rate Maps dated January 6, 2016,
33
34
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1 ~~and any ["The Flood Insurance Study for Austin, Texas," dated~~
2 ~~January 6, 2016, with accompanying Flood Insurance Rate Maps~~
3 ~~and Flood Boundary Floodway Maps (FIRM and FBFM) and~~
4 ~~related supporting data, along with any amendments or]~~ revisions
5 ~~[thereto,] are [hereby] adopted by reference and declared to be a~~
6 part of this section; and

- 7 2. the 100-year and 25-year floodplains as defined ~~[based on projected~~
8 ~~full development as specified]~~ in the Austin City Code and
9 Drainage Criteria Manual are adopted by reference and declared to
10 be part of this section.

11 **PART 15.** Subsection 1612.4.1 (*Freeboard*) of City Code Section 25-12-3 (*Local*
12 *Amendments to the Building Code*) is amended to read as follows:

13 **1612.4.1 Freeboard.** A minimum freeboard of two feet ~~[one foot]~~ shall be added
14 where the design flood elevation or other elevation requirements are specified,
15 unless otherwise specified in Title 25 (*Land Development*).

16 **PART 16.** Subsection G103.3 (*Determination of Design Flood Elevations*) of Appendix
17 G (*Flood Resistant Construction*) of City Code Section 25-12-3 (*Local Amendments to*
18 *the Building Code*) is amended to read as follows:

19 **G103.3 Determination of design flood elevations.** If design flood elevations are
20 not specified, the building official is authorized to require the applicant to:

- 21 1. Obtain, review and reasonably utilize data available from a federal,
22 state or other source; or
- 23 2. Determine the design flood elevation in accordance with the 100-
24 year floodplain as defined in the Austin City Code ~~[based on~~
25 ~~projected full development in accordance with the City of Austin~~
26 ~~Drainage Criteria Manual]~~. Such analyses shall be performed and
27 sealed by a Professional Engineer licensed by the State of Texas.
28 Studies, analyses and computations shall be submitted in sufficient
29 detail to allow review and approval by the building official. The
30 accuracy of data submitted for such determination shall be the
31 responsibility of the applicant.

1 **PART 17.** Subsection 320.2 (*Establishment of Flood Hazard Areas*) of City Code
2 Section 25-12-133 (*Local Amendments to the 2015 Uniform Mechanical Code*) is
3 amended to read as follows:

4 **320.2 Establishment of flood hazard areas.** A flood hazard area is:

- 5 1. the areas of special flood hazard areas identified by the Federal
6 Emergency Management Agency in the current [a] scientific and
7 engineering report entitled, "The Flood Insurance Study (FIS) for
8 Williamson County, Texas and Incorporated Areas" dated December
9 20, 2019, with accompanying Flood Insurance Rate Maps (FIRM)
10 dated December 20, 2019, the current scientific and engineering
11 report entitled "The Flood Insurance Study for Travis County, Texas
12 and Incorporated Areas" dated January 6, 2016, with accompanying
13 Flood Insurance Rate Maps dated January 6, 2016, and any ["The
14 Flood Insurance Study for Austin, Texas," dated January 6, 2016,
15 with accompanying Flood Insurance Rate Maps and Flood
16 Boundary Floodway Maps (FIRM and FBFM) and related
17 supporting data, along with any amendments or] revisions [thereto,]
18 are [hereby] adopted by reference and declared to be a part of this
19 section; or
- 20 2. a 100-year or 25-year floodplain as defined [~~based on projected full~~
21 ~~development as specified~~] in the Austin City Code [~~and Drainage~~
22 ~~Criteria Manual~~].

23 **PART 18.** Subsection 321.8 (*Establishment of Flood Hazard Areas*) of City Code
24 Section 25-12-153 (*Local Amendments to the Uniform Plumbing Code*) is
25 amended to read as follows:

26 **321.8 Establishment of flood hazard areas.** The City establishes a flood hazard area
27 that includes the following:

- 28 1. Areas of special flood [~~flood~~] hazard areas identified by the Federal
29 Emergency Management Agency in the current [a] scientific and
30 engineering report entitled, "The Flood Insurance Study (FIS) for
31 Williamson County, Texas and Incorporated Areas" dated December 20,
32 2019, with accompanying Flood Insurance Rate Maps (FIRM) dated
33 December 20, 2019, the current scientific and engineering report entitled

1 "The Flood Insurance Study for Travis County, Texas and Incorporated
 2 Areas" dated January 6, 2016, with accompanying Flood Insurance Rate
 3 Maps dated January 6, 2016, and any ["The Flood Insurance Study for
 4 Austin, Texas," dated January 6, 2016, with accompanying Flood Insurance
 5 Rate Maps and Flood Boundary Floodway Maps (FIRM and FBFM) and
 6 related supporting data, along with any amendments or] revisions [thereto,]
 7 are [hereby] adopted by reference and declared to be a part of this section;
 8 and

- 9 2. The 100-year and 25-year floodplains as defined in the Austin City Code
 10 [based on projected full developments as specified in the City Code and
 11 Drainage Criteria Manual] are adopted by reference and declared to be part
 12 of this section.

13
 14 **PART 19.** Subsection R202 (*Definitions*) of City Code Section 25-12-243 (*Local*
 15 *Amendments to the International Residential Code*) is amended to delete and replace the
 16 definitions of "25-year flood plain", "base flood", "design flood", "flood hazard area",
 17 and "floodway" to read as follows:

18 **25-YEAR FLOODPLAIN** means an area that has the following
 19 characteristics:

- 20 (A) For areas amended to incorporate Atlas 14 data, the 25-year
 21 floodplain calculated under fully developed conditions as
 22 prescribed by the Drainage Criteria Manual as amended to
 23 incorporate Atlas 14 data;
- 24 (B) For areas not yet amended to consider Atlas 14 data, the 100-year
 25 floodplain calculated under fully developed conditions as
 26 prescribed by the Drainage Criteria Manual using data predating
 27 Atlas 14; or
- 28 (C) For the Colorado River, the 25-year floodplain as calculated under
 29 exiting conditions as prescribed by the Drainage Criteria Manual
 30 using data predating Atlas 14.

31 **BASE FLOOD** means a flood that has the following characteristics:

- 32 1. For areas amended to incorporate Atlas 14 data, a flood that has a
 33 one percent chance of being equaled or exceeded in any given year
 34 (100-year flood) calculated under fully developed conditions as

1 prescribed by the Drainage Criteria Manual as amended to
2 incorporate Atlas 14 data;

- 3 2. For areas not yet amended to incorporate Atlas 14 data, a flood that
4 has a 0.2 percent chance of being equaled or exceeded in any given
5 year (500-year flood) calculated under the conditions underlying
6 the FEMA Flood Insurance Rate Map as of January 6, 2016, as
7 subsequently revised, or as calculated under existing conditions as
8 prescribed by the Drainage Criteria Manual using data predating
9 Atlas 14; or
- 10 3. For the Colorado River, a flood that has a one percent chance of
11 being equaled or exceeded in any given year (100-year flood)
12 calculated under the conditions underlying the FEMA Flood
13 Insurance Rate Map dated January 6, 2016, or as subsequently
14 revised.

15 **DESIGN FLOOD** means a flood that has the following characteristics:

- 16 1. For areas amended to incorporate Atlas 14 data, the flood
17 associated with an area of a floodplain subject to a one percent or
18 greater chance of being flooded in any year (100-year flood) based
19 on projected full development in accordance with the City of
20 Austin Drainage Criteria Manual as amended to incorporate Atlas
21 14 data;
- 22 2. For areas not yet amended to incorporate Atlas 14 data, the flood
23 associated with an area of a floodplain subject to a 0.2 percent or
24 greater chance of being flooded in any year (500-year flood)
25 calculated under the conditions underlying the FEMA Flood
26 Insurance Rate Map as of January 6, 2016, as subsequently revised,
27 or as calculated under existing conditions as prescribed by the
28 Drainage Criteria Manual using data predating Atlas 14; or
- 29 3. For the Colorado River, the flood associated with an area of a
30 floodplain subject to a one percent or greater chance of being
31 flooded in any year (100-year flood) as depicted on the FEMA
32 Flood Insurance Rate Map dated January 6, 2016, or as
33 subsequently revised.

1 **FLOOD HAZARD AREA** means an area that has the following characteristics:

- 2 1. For areas amended to incorporate Atlas 14 data, an area within a
3 floodplain subject to a one percent or greater chance of being
4 flooded in any year (100-year flood) based on projected full
5 development in accordance with the City of Austin Drainage
6 Criteria Manual as amended to incorporate Atlas 14 data;
- 7 2. For areas not yet amended to incorporate Atlas 14 data, an area
8 within a floodplain subject to the 500-year floodplain either as
9 depicted on the FEMA Flood Insurance Rate Map as of January 6,
10 2016, as subsequently revised, or as calculated under existing
11 conditions as prescribed by the Drainage Criteria Manual using data
12 predating Atlas 14; or
- 13 3. For the Colorado River, an area within a floodplain subject to a one
14 percent or greater chance of being flooded in any year (100-year
15 flood) as depicted on the FEMA Flood Insurance Rate Map dated
16 January 6, 2016, or as subsequently revised.

17 **FLOODWAY** means the channel of the river, creek, or other watercourse
18 and the adjacent land areas that must be reserved in order to discharge the
19 base flood without cumulatively increasing the water surface elevation
20 more than a designated height. An area that has the following
21 characteristics:

- 22 1. For the Colorado River, an area with a floodplain subject to a four
23 percent or greater chance of flooding in any year (25-year flood)
24 based on existing developed conditions as prescribed by the
25 Drainage Criteria Manual using data predating Atlas 14;
- 26 2. For all other rivers, creeks, and watercourses in areas amended to
27 incorporate Atlas 14 data, an area with a four percent or greater
28 chance of flooding in any year (25-year flood) based on a projected
29 full development in accordance with the City of Austin Drainage
30 Criteria Manual as amended to incorporate Atlas 14 data; or
- 31 3. For all other rivers, creeks, and watercourses in areas not yet
32 amended to incorporate Atlas 14 data, an area with a one percent or
33 amended to incorporate Atlas 14 data, an area with a one percent or
34

1 greater chance of flooding in any year (100-year flood) based on a
2 projected full development in accordance with the City of Austin
3 Drainage Criteria Manual using data predating Atlas 14.

4 **PART 20.** Subsection R202 (*Definitions*) of City Code Section 25-12-243 (*Local*
5 *Amendments to the International Residential Code*) is amended to add a new definition
6 of “100-year flood plain” to read as follows:

7 **100-YEAR FLOOD PLAIN** means an area that has the following
8 characteristics:

- 9 (A) For areas amended to incorporate Atlas 14 data, the 100-year
10 floodplain calculated under fully developed conditions as
11 prescribed by the Drainage Criteria Manual as amended to
12 incorporate Atlas 14 data;
- 13 (B) For areas not yet amended to incorporate Atlas 14 data, the 500-
14 year floodplain either as depicted on the FEMA Flood Insurance
15 Rate Map as of January 6, 2016, as subsequently revised, or as
16 calculated under existing conditions as prescribed by the Drainage
17 Criteria Manual using data predating Atlas 14; or
- 18 (C) For the Colorado River, the 100-year floodplain as depicted on the
19 FEMA Flood Insurance Rate Map dated January 6, 2016, or as
20 subsequently revised.

21 **PART 21.** Subsection R322.1.4 (*Establishing the Design Flood Elevation*) of
22 City Code Section 25-12-243 (*Local Amendments to the International Residential*
23 *Code*) is amended to read as follows:

24 **R322.1.4 Establishing the design flood elevation.** The design flood elevation
25 defines areas prone to flooding and describes, at a minimum, the base flood
26 elevation at the depth of peak elevation of flooding based upon: [~~with the ultimate~~
27 ~~development of the watershed, which has a one percent (100-year flood) or greater~~
28 ~~chance of being equaled or exceeded in any given year.~~]

- 29 1. For areas amended to incorporate Atlas 14 data, the 100-year
30 floodplain calculated under fully developed conditions in
31 accordance with the City of Austin Drainage Criteria Manual as
32 amended to incorporate Atlas 14 data;

- 1 2. For areas not yet amended to incorporate Atlas 14 data, the 500-
2 year floodplain either as depicted on the FEMA Flood Insurance
3 Rate Map as of January 6, 2016, as subsequently revised, or as
4 calculated under existing conditions as prescribed by the Drainage
5 Criteria Manual using data predating Atlas 14; or
- 6 3. For the Colorado River, the 100-year floodplain as depicted on the
7 FEMA Flood Insurance Rate Map dated January 6, 2016, or as
8 subsequently revised.

9 **PART 22.** Subsection R322.2 (*Establishment of Flood Hazard Areas [Including*
10 *A Zones]*) of City Code Section 25-12-243 (*Local Amendments to the*
11 *International Residential Code*) is amended to read as follows:

12 **R322.2 Establishment of flood hazard areas (including A Zones).** A flood
13 hazard area is:

- 14 1. the areas of special flood hazard areas identified by the Federal
15 Emergency Management Agency in the current [a] scientific and
16 engineering report entitled, "The Flood Insurance Study (FIS) for
17 Williamson County, Texas and Incorporated Areas" dated
18 December 20, 2019, with accompanying Flood Insurance Rate
19 Maps (FIRM) dated December 20, 2019, the current scientific and
20 engineering report entitled "The Flood Insurance Study for Travis
21 County, Texas and Incorporated Areas" dated January 6, 2016, with
22 accompanying Flood Insurance Rate Maps dated January 6, 2016,
23 and any ["The Flood Insurance Study for Austin, Texas," dated
24 January 6, 2016, with accompanying Flood Insurance Rate Maps
25 and Flood Boundary Floodway Maps (FIRM and FBFM) and
26 related supporting data, along with any amendments or] revisions
27 [~~thereto,~~] are [~~hereby~~] adopted by reference and declared to be a
28 part of this section; or
- 29 2. a 100-year or 25-year floodplain as defined [~~based on projected full~~
30 development as specified] in the Austin City Code [~~and Drainage~~
31 Criteria Manual].

1 **PART 23.** Subsection R322.2.1 (*Elevation requirements*) of City Code Section
2 25-12-243 (*Local Amendments to the International Residential Code*) is amended
3 to read as follows:

4 **R322.2.1 Elevation requirements.**

- 5 1. Unless otherwise specified in the Land Development Code, the
6 lowest floor of a building or structure must be elevated a minimum
7 of two feet [~~one foot~~] above the design flood elevation.
- 8 2. Where the design flood elevation or other elevation requirement
9 specifies, a minimum freeboard of two feet [~~one foot~~] shall be
10 added.
- 11 3. In areas of shallow flooding (AO Zones), the lowest floor
12 (including a basement) of a building or structure must be elevated
13 higher than the highest adjacent grade as the depth number
14 specified in feet (mm) on the FIRM plus two feet [~~one foot~~], or at
15 least three feet (915 mm) [~~two feet (610 mm)~~] if a depth number is
16 not specified.
- 17 4. A basement floor that is below grade on all sides must be elevated
18 at least two feet [~~one foot~~] above the design flood elevation.

19 **Exception:** An enclosed area, including a basement, which is below the
20 design flood elevation but not below grade on all sides must meet the
21 requirements in Section R322.2.2 (*Enclosed area below design flood*
22 *elevation*).

23 **PART 24.** Subsection R322.2.6 (*Means of egress*) of City Code Section 25-12-
24 243 (*Local Amendments to the International Residential Code*) is amended to read
25 as follows:

26 **R322.2.6 Means of egress.**

- 27 1. Unless otherwise approved by the building official, normal access
28 to the building shall be by direct connection with an area that is a
29 minimum of one foot above the design flood elevation.

- 1 2. For a building that is part of a single-family condo regime
2 residential building permit application and part of a site plan that
3 was approved between December 1, 2017, and <INSERT
4 EFFECTIVE DATE OF ORDINANCE>, compliance with this
5 section shall be determined at the time of site plan approval.
- 6 3. For a building that is part of a single-family building permit
7 application and part of (a) a preliminary plan that was submitted for
8 approval between December 1, 2014 and <INSERT EFFECTIVE
9 DATE OF ORDINANCE> or (b) a final plat that was approved
10 between December 1, 2017 and <INSERT EFFECTIVE DATE OF
11 ORDINANCE>, compliance with this section shall be determined
12 at the time of preliminary plan or final plat approval, respectively.
- 13 4. For all other buildings, compliance with this section shall be
14 determined at the time of building permit application.

15 **PART 25.** City Code Section 30-4-1 (*Definitions*) is amended to add a definition of
16 “Atlas 14” and to renumber the other definitions in this section accordingly:

- 17 (9) ATLAS 14 means the National Oceanic and Atmospheric
18 Administration’s Precipitation-Frequency Atlas 14 of the United States,
19 Volume 11, Version 2.0: Texas.

20 **PART 26.** City Code Section 30-4-1 (*Definitions*) is amended to change the definitions
21 of “100-Year Floodplain” and “25-Year Floodplain” to read as follows:

- 22 (10) 100-YEAR FLOODPLAIN means an area within a floodplain subject to
23 a one percent or greater chance of flooding in any year as calculated in
24 accordance with Section 30-4-5 (*Determination of the 100-Year*
25 *Floodplain*) [the 100-year floodplain calculated under fully developed
26 conditions as prescribed by the ~~Drainage Criteria Manual~~].
- 27 (11) 25-YEAR FLOODPLAIN means an area within a floodplain subject to a
28 four percent or greater chance of flooding in any year as calculated in
29 accordance with Section 30-4-6 (*Determination of the 25-Year*
30 *Floodplain*) [the 25-year floodplain calculated under fully developed
31 conditions as prescribed by the ~~Drainage Criteria Manual~~].

1 **PART 27.** City Code Section 30-4-5 (*Computation of Stormwater Runoff*) is amended
2 to read as follows:

3 **§ 30-4-7[5] COMPUTATION OF STORMWATER RUNOFF.**

4 (A) Except as provided in Subsection (B), stormwater [Stormwater] runoff
5 shall be computed on the basis of a fully developed contributing drainage
6 area or watershed as determined under the Drainage Criteria Manual.

7 (B) When determining the runoff generated from the 500-year flood for the
8 purpose of determining the 100-year floodplain under Subsection (B) of
9 Section 30-4-5 (*Determination of the 100-Year Floodplain*), stormwater
10 runoff shall be computed on the basis of an existing developed
11 contributing drainage area or watershed.

12 **PART 28.** City Code Chapter 30-4 (*Drainage*) is amended to add a new Section 30-4-
13 5 and 30-4-6 to read as follows:

14 **§ 30-4-5 DETERMINATION OF THE 100-YEAR FLOODPLAIN.**

15 For purposes of this chapter, the 100-year floodplain shall be:

16 (A) For areas amended to incorporate Atlas 14 data, the 100-year
17 floodplain calculated under fully developed conditions as
18 prescribed by the Drainage Criteria Manual as amended to
19 incorporate Atlas 14 data;

20 (B) For areas not yet amended to incorporate Atlas 14 data, the 500-
21 year floodplain either as depicted on the FEMA Flood Insurance
22 Rate Map as of January 6, 2016, as subsequently revised, or as
23 calculated under existing conditions as prescribed by the Drainage
24 Criteria Manual using data predating Atlas 14; or

25 (C) For the Colorado River, the 100-year floodplain as depicted on the
26 FEMA Flood Insurance Rate Map dated January 6, 2016, or as
27 subsequently revised.

28 **§ 30-4-6 DETERMINATION OF THE 25-YEAR FLOODPLAIN.**

29 For purposes of this chapter, the 25-year floodplain shall be:

- 1 (A) For areas amended to incorporate Atlas 14 data, the 25-year
2 floodplain calculated under fully developed conditions as
3 prescribed by the Drainage Criteria Manual as amended to
4 incorporate Atlas 14 data;
- 5 (B) For areas not yet amended to consider Atlas 14 data, the 100-year
6 floodplain calculated under fully developed conditions as
7 prescribed by the Drainage Criteria Manual using data predating
8 Atlas 14; or
- 9 (C) For the Colorado River, the 25-year floodplain as calculated under
10 exiting conditions as prescribed by the Drainage Criteria Manual
11 using data predating Atlas 14.

12 **PART 29.** City Code Section 30-5-1 (*Definitions*) is amended to change the definition
13 of “floodplain modification” to read as follows:

- 14 (10) FLOODPLAIN MODIFICATION means development that results in any
15 vertical or horizontal change in the cross section of the 100-year
16 floodplain as determined under Section 30-4-5 (*Determination of the 100-*
17 *Year Floodplain*) [~~calculated under fully developed conditions as~~
18 ~~prescribed by the Drainage Criteria Manual~~].

19 **PART 30.** Subsections (A), (C), and (F) of City Code Section 30-5-92 (*Critical Water*
20 *Quality Zones Established*) are amended to read as follows:

- 21 (A) In the water supply rural watersheds, water supply suburban watersheds,
22 and Barton Springs Zone, a critical water quality zone is established along
23 each waterway classified under Section 30-5-91 (*Waterway*
24 *Classifications*).
- 25 (1) The boundaries of a critical water quality zone coincide with the
26 boundaries of the 100-year floodplain as determined under Section
27 30-4-5 (*Determination of the 100-Year Floodplain*), [~~calculated~~
28 ~~under fully developed conditions as prescribed by the Drainage~~
29 ~~Criteria Manual~~] except:

- 1 (a) for a minor waterway, the boundaries of the critical water
2 quality zone are located not less than 50 feet and not more than
3 100 feet from the centerline of the waterway;
- 4 (b) for an intermediate waterway, the boundaries of the critical
5 water quality zone are located not less than 100 feet and not
6 more than 200 feet from the centerline of the waterway;
- 7 (c) for a major waterway, the boundaries of the critical water
8 quality zone are located not less than 200 feet and not more
9 than 400 feet from the centerline of the waterway; and
- 10 (d) for the main channel of Barton Creek, the boundaries of the
11 critical water quality zone are located 400 feet from the
12 centerline of the creek.

- 13 (2) Notwithstanding the provisions of Subsections (A)(1)(a), (b), and (c),
14 a critical water quality zone does not apply to a previously modified
15 drainage feature serving a railroad or public roadway right-of-way
16 that does not possess any natural and traditional character and cannot
17 reasonably be restored to a natural condition, as prescribed in the
18 Environmental Criteria Manual.

19 (C) In an urban watershed, a critical water quality zone is established along
20 each waterway with a drainage area of at least 64 acres. This does not apply
21 in the area bounded by IH-35, Riverside Drive, Barton Springs Road,
22 Lamar Boulevard, and 15th Street.

- 23 (1) The boundaries of the critical water quality zone coincide with the
24 boundaries of the 100-year floodplain as determined under Section
25 30-4-5 (*Determination of the 100-Year Floodplain*), [~~calculated~~
26 ~~under fully developed conditions as prescribed by the Drainage~~
27 ~~Criteria Manual;~~] provided that the boundary is not less than 50 feet
28 and not more than 400 feet from the centerline of the waterway.
- 29 (2) Notwithstanding the provisions of Subsection (C)(1), a critical water
30 quality zone does not apply to a previously modified drainage feature
31 serving a railroad or public roadway right-of-way that does not

1 possess any natural and traditional character and cannot reasonably
2 be restored to a natural condition.

3 (F) Critical water quality zones are established along and parallel to the
4 shorelines of the Colorado River downstream of Lady Bird Lake.

5 (1) The shoreline boundary of a critical water quality zone coincides with
6 the river's ordinary high water mark, as defined by Code of Federal
7 Regulations Title 33, Section 328.3 (*Definitions*).

8 (2) The inland boundary of a critical water quality zone coincides with
9 the boundary of the 100-year floodplain as determined under Section
10 30-4-5 (Determination of the 100-Year Floodplain) [~~delineated by~~
11 ~~the Federal Emergency Management Agency~~], except that the width
12 of the critical water quality zone, measured horizontally inland, is
13 not less than 200 feet and not more than 400 feet.

14 **PART 31.** Subsection (A) of City Code Section 30-5-121 (*Environmental Resource*
15 *Inventory Requirement*) is amended to read as follows:

16 (A) An applicant shall file an environmental resource inventory with the
17 director for proposed development located on a tract:

18 (1) within the Edwards Aquifer recharge or contributing zone;

19 (2) within the Drinking Water Protection Zone;

20 (3) containing a water quality transition zone;

21 (4) containing a critical water quality zone; or

22 (5) [~~containing a floodplain; or~~

23 (6)] with a gradient of more than 15 percent.

24 **PART 32.** Parts 1 through 24 of this ordinance take effect on
25 _____, 2019. Parts 25 through 31 of this ordinance take
26 effect on the effective date of a Travis County ordinance enacting the same or
27 substantially similar provisions.

PASSED AND APPROVED

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_____, 2019

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Steve Adler
Mayor

APPROVED: _____

Anne L. Morgan
City Attorney

ATTEST: _____

Jannette S. Goodall
City Clerk

DRAFT



Affordability Impact Statement

Neighborhood Housing and Community Development Department

LDC Section 25-7-2 - Definitions (Definitions of the 25- and 100-year floodplains)

LDC Section 25-7-6 - Determination of the 100-year Floodplain

LDC Section 25-7-7 - Determination of the 25-year Floodplain

LDC Section 25-7-8 - Computation of Stormwater Runoff

LDC Section 25-7-93 - General Exceptions (Exceptions for buildings in 100-year floodplain)

LDC Section 25-7-96 - Requirements in the 25-Year Floodplain

LDC Section 25-8-1 - Definitions (Definitions of floodplain modification)

LDC Section 25-8-92 - Critical Water Quality Zones Established

LDC Section 25-8-121 - Environmental Resource Inventory Requirement

Corresponding updates to technical codes

25-12-3 Local Amendments to the Building Code, Section 1612 Flood Loads

25-12-133 Local Amendments to the 2015 Uniform Mechanical Code

25-12-153 Local Amendments to the Uniform Plumbing Code

25-12-243 Local Amendments to the International Residential Code

Corresponding updates to Title 30

30-4-1 Definitions

30-4-5 - Determination of the 100-Year Floodplain

30-4-6 - Determination of the 25-Year Floodplain

30-4-7 - Computation of Stormwater Runoff

30-5-1 - Definitions (Definitions of floodplain modification)

30-5-92 - Critical Water Quality Zones Established

30-5-121 - Environmental Resource Inventory Requirement

Background and Proposed Code Amendments

In the fall of 2018, the National Weather Service completed a study of historical rainfall amounts for Texas. The study, called Atlas 14, showed that severe flooding in Austin happens more frequently than previously thought. The proposed code amendments are intended to align City regulations with this new understanding of flood risk.

The proposed code amendments would redefine the existing 100-year and 25-year floodplain boundaries to reflect our new understanding of flood risk identified by the Atlas 14 study. The current 500-year and 100-year floodplains are very close proxies for the Atlas 14 100-year and 25-year floodplains, respectively. The proposed code amendments would therefore, during an interim period, redefine the current FEMA 500-year floodplain as the 100-year regulatory floodplain, and the current fully-developed 100-year floodplain as the 25-year floodplain. This interim period would end when the City updates the floodplain studies, which is expected to be within 2 to 3 years. The total amount of land within the 100-year floodplain would increase from 19,200 acres to 22,700 acres, or from 9% to 11% of the City's full and limited purpose jurisdiction.

The proposed code amendments would also change existing City regulations that govern development in the floodplain. First, all residential development within the 100-year floodplain must have a finished floor elevation of at least two feet above the floodplain. Second, a new "Redevelopment Exception"

provides an administrative permit approval process to allow certain residential properties with existing buildings in the 100-year floodplain to redevelop their properties in a way that reduces their flood risk. Third, the proposed amendments would expand the current exception for encroachment into the 100-year floodplain.

The Land Development Code, both current and proposed, prohibits buildings and parking lots from encroaching into the 100-year floodplain unless the development qualifies for an exception or is approved for a variance. The proposed code amendments would maintain the current exceptions for encroachment into the 100-year floodplain in the central business area, for facilities in parkland, and for parking in areas of shallow flooding of the Colorado River. These regulations would also apply to the 100-year floodplains of Lake Austin and Lake Travis. If a proposed development does not comply with the requirements for an exception, then a variance would be required to construct new buildings and parking lots within the 100-year floodplain on undeveloped tracts.

Land Use/Zoning Impacts on Development

The proposed code amendments would add approximately 550 acres of undeveloped land to the regulatory 100-year floodplain, which is approximately 1.6% of all undeveloped land within the City limits. Of this “new” floodplain area, approximately 65% impacts less than 10% of the properties’ total area. The potential cost impact to undeveloped properties depends on the circumstances of the property and multiple variables, including the size of the property, the total developable area, the portion of the developable area impacted by the floodplain, among others.

Approximately 2,900 single-family and duplex residential buildings are currently located within the City’s regulatory 100-year floodplain. The proposed code amendments would add approximately 2,600 residential buildings to the City’s regulatory 100-year floodplain. In total, the number of single-family and duplex buildings within the current 100-year floodplain and proposed new floodplain areas represents less than 3% of citywide single-family and duplex buildings.

Development on properties within the proposed 100-year floodplain would be subject to new regulations. A City Council variance would be required to increase the number of dwelling units on the site. Additionally, if an existing building is not elevated two feet above the floodplain, it would be classified as a nonconforming use, subject to limits on improvements and repairs. The proposed code amendments would not require existing buildings to come into compliance with the new regulations unless they are being remodeled (in some cases) or redeveloped.

Properties within the proposed 25-year floodplain are already subject to current floodplain regulations since they are within the existing 100-year floodplain. While a large percentage of these properties are already nonconforming uses under the current code, the increase in floodplain depths associated with the proposed code amendment, as well as the increased elevation requirement, will increase the number of nonconforming properties. However, the proposed Redevelopment Exception would provide an administrative process to allow a property owner to bring an existing home into compliance with current code or replace it with a new building that meets code.

Similar to the prior discussion of impacts to undeveloped properties, the cost impact to existing residential properties also depends on the circumstances of the site. For example, if the new area of

100-year floodplain is relatively small and either the existing or proposed house remains outside of the floodplain and at an appropriate elevation, the cost of development on the lot could be insignificant. If a property owner chooses to use the Redevelopment Exception, the cost of development will either increase some (to reflect additional engineering costs if the property was not previously in the 100-year floodplain) or decrease (if the property was previously in the 100-year floodplain but was not eligible for an exception). (See a separate discussion of construction costs, below.)

Impact on Construction Costs

The proposed code amendment would increase the number of existing buildings and developable lots within the regulatory floodplain and increase the required finished floor elevations for new buildings constructed in the floodplain. This will increase construction costs within the 11% of the City's land area subject to these regulations.

The Neighborhood Housing and Community Development Department estimates that the proposed changes to floodplain depths and associated finished floor requirements would increase average slab on grade foundation costs from \$15,000 to \$30,000 and increase pier and beam foundation costs from \$13,500 to \$19,000.

Additionally, new and redevelopment permitted in the floodplain is required to demonstrate through engineering that the development does not create an adverse flooding impact on other properties, preserves floodplain storage capacity on site, and is structurally designed to withstand flood forces. As the 100-year floodplain expands to include a 2% increase of city land, that area would now be required to provide and bear the cost of producing this documentation, while properties already subject to these requirements may see the costs for such engineering increase due to an increase in flood depths and velocities.

Impact to Affordable Housing

Whether a property encroaches on the 100-year floodplain is a consideration for applications submitted to the City of Austin to access funding for home repair or for accessibility modifications. City staff must evaluate the cost associated with developing a property in the floodplain. Project(s) that would now be in the 100-year floodplain will not be eligible for funding. Any existing projects/buildings seeking funding for rehabilitation could be restricted to 50% of the value of the building. Any buildings in the floodplain that required rehabilitation funding greater than 50% of the value of the building would have to demolish the existing building and build anew. Therefore, the rehabilitation would have to use more funds for construction and engineering. Such an increase in cost could potentially mean the reduction of the number of units provided or restricting the affordability of the units (MFI to be served).

Upon adoption of updated floodplains by FEMA, anyone purchasing a dwelling or re-financing within the new floodplain boundaries will be required to secure flood plain insurance by their mortgage lender. This FEMA's floodplain update process will be completed regardless of the ordinance's adoption.

Developments that are requesting Home Repair Loan Program, Down Payment Assistance, or Architectural Barrier Removal that are located in the proposed 25-year floodplain would no longer be

eligible to receive funds per Federal Funding requirements. Developments that are requesting Home Repair Loan Program, Down Payment Assistance, or Architectural Barrier Removal that are located in the proposed 100-year floodplain would be required to secure floodplain insurance. Developments that are part of the Home Repair Loan Program that are located in the proposed 100-year floodplain that have a building that is a demolition and re-construction candidate (repairs exceed \$65,000), would be cost prohibitive due to the increased cost of foundation construction and engineering to demonstrate flood risk reduction requirements. The total maximum limit for a demolition/re-construction loan is \$130,000 (includes all soft, construction, and loan processing costs).

Other Policy Considerations

While the proposed ordinance does impact the up-front construction costs and development potential of properties within the floodplain, there is also a negative affordability impact associated with not proceeding with the proposed code amendment. Broadly, allowing new development to occur in known high-risk flood areas could lead to future expenditures of City resources on flood mitigation and recovery. Additionally, there are public safety costs associated with allowing new residential buildings in floodplains, including search-and-rescue, first responder safety, and associated costs related to emergency and disaster operations. The costs of these drainage and public safety services are borne by all Austin residents in the form of taxes and service fees. For individual property owners within the floodplain, the proposed ordinance will positively impact long-term affordability in terms of future flood losses and insurance costs. Since Austin joined the National Flood Insurance Program, 83% of all flood insurance claims in the City have come from single-family residential properties, totaling more than \$46.5 million dollars in paid losses. Homes elevated above the floodplain are much less likely to experience flood losses. For families without flood insurance this substantial reduction in flood risk can prevent potentially significant losses: losses that disproportionately impact vulnerable populations.

The Watershed Protection Department is currently initiating the process to produce new floodplain studies for every watershed in the City based upon the Atlas 14 data. This multi-year process will result in new City and FEMA floodplain maps and will be completed irrespective of adoption of this proposed code amendment. At the time those studies and maps are completed, development restrictions based upon current code would automatically go into effect for areas shown to be in the 100- and 25-year floodplains. In some cases, those regulations would be more restrictive than the proposed ordinance, and would limit the ability of property owners to redevelop existing properties. For example, the proposed Redevelopment Exception would grant all existing residential properties the entitlement to redevelop with a building elevated at least two feet above the 100-year floodplain elevation.

Furthermore, once the new FEMA flood insurance rates maps are completed and effective, federally-backed mortgage holders within the 100-year floodplain will be required by their lender to carry a flood insurance policy. In areas being added to the 100-year floodplain, the cost of insurance could be significantly impacted by whether the building was built under today's regulations or those of the proposed ordinance. While flood insurance costs will vary based upon coverage amounts, deductibles, and actions taken by the homeowner to maintain coverage prior to map changes, it is possible to provide examples that demonstrate the potential savings between buildings. For example, a building insured for \$200,000 in building coverage and \$80,000 in contents coverage built at grade would cost

\$1,875 a year or more to insure, depending on how deep it was in the 100-year floodplain. Comparatively, a building with the same coverage levels built with its finished floor 2 feet above the 100-year floodplain, as would be required under the proposed code amendment, would cost \$650 a year to insure. Over the course of a 30-year mortgage, elevating a building confers significant savings and should be considered when examining the costs associated with the proposed ordinance.

Date: 1/18/19

Director's Signature: 