

AUSTIN'S INCREASED RAINFALL FREQUENCY & PROPOSED CODE CHANGES

FELISA CANTU

ATLAS 14 VOLUME II

In September 2018, the National Oceanic and Atmospheric Administration (“NOAA”) published a new study, called Atlas 14 Volume II, that found increased rainfall frequency values across Texas. More specifically, the analysis found that major cities, like Austin and Houston, are more likely to experience a major storm event than previously expected, thus increasing the likelihood of severe flooding (see Figure 1). To prepare for the increased flood risk, the City of Austin has developed proposed changes to the City Code which includes tighter regulations that impact existing and future infrastructure.

NEW RAINFALL DATA
2018

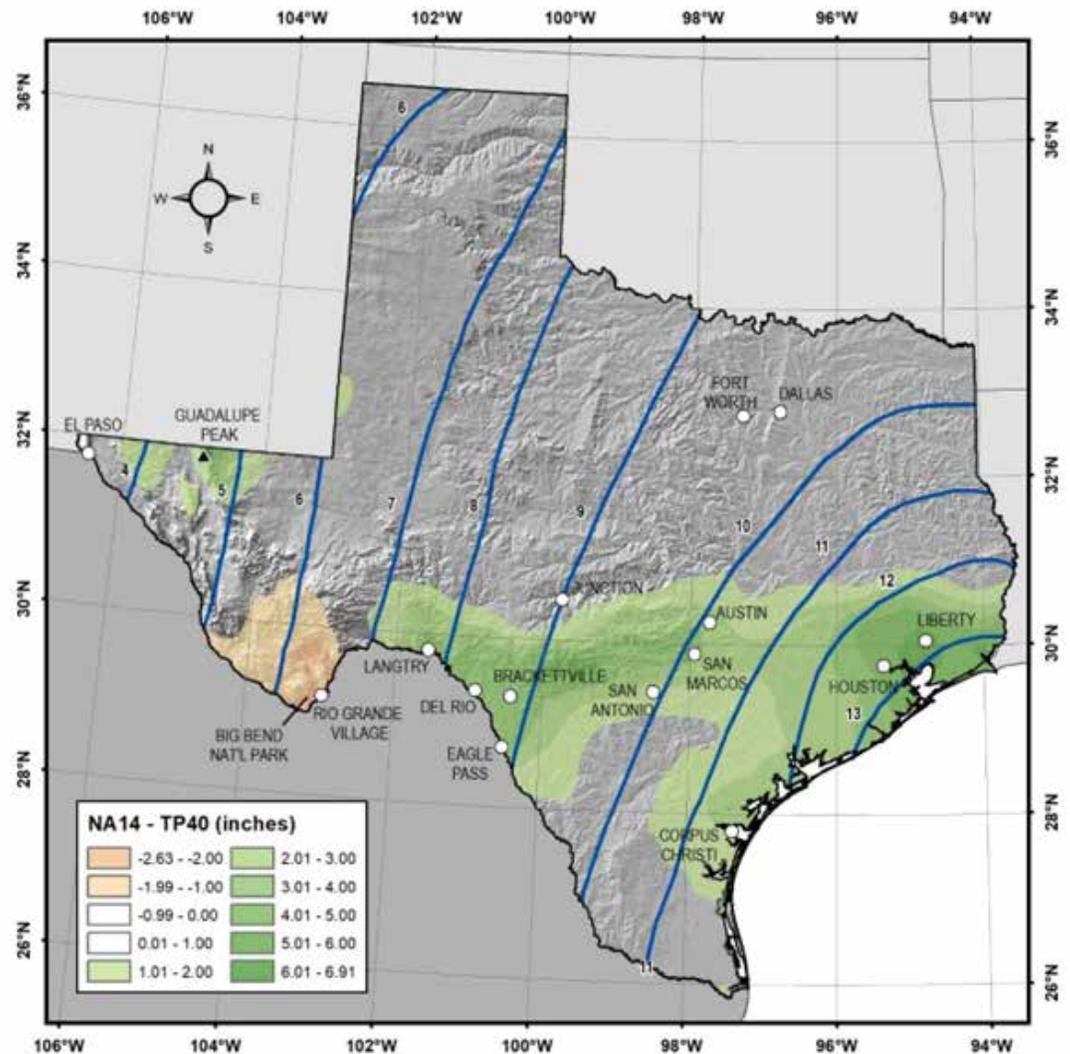


Figure 1: Map showing differences in 100-year 24-hour estimates (in inches) between NA14 and TP40 for Texas

THE NEW 100-YEAR STORM

The updated NOAA Atlas 14 results in significant changes to Austin’s rainfall amounts that define the City’s current “100-year storm” event. A 100-year storm is defined as the amount of rain having a one percent chance of being equaled or exceeded in any given year, or 26 percent chance of occurring during a 30-year period.

Based on existing data, the City of Austin defines a 100-year storm event as 10.2 inches of rainfall depth in a 24-hour time period. However, the new Atlas 14 study for Texas shows that this rainfall amount is likely to occur more frequently. NOAA’s Atlas 14 defines the new 100-year storm for the city to be closer to 13 inches of rainfall depth in a 24-hour period, which resembles the current 500-year storm (see Figure 2).

Probability of Occurance in any Given Year	Storm Level	Current Rainfall Intensity (24-hour storm)	Atlas 14 Rainfall Intensity (24-hour storm)
4%	25-year	7.6 inches	Up to 9 inches
1%	100-year	10.2 inches	Up to 13+ inches
0.2%	500-year	13.5 inches	Up to 19.5 inches

Figure 2: City of Austin Rainfall Intensity Changes

The Atlas 14 study also impacts the existing floodplain zones in the City of Austin. A floodplain is the land which has been or is expected to be covered during a regional flood. Given Atlas 14’s new historical data, this information indicates that more people and property are at risk of flooding. To account for this increased flood risk, the City of Austin is proposing to rezone the City so that the new 100-year floodplain will be based on the existing 500-year floodplain. These new, larger flood zones will encompass nearly 700 more Central Austin properties than before (see Figure 3).

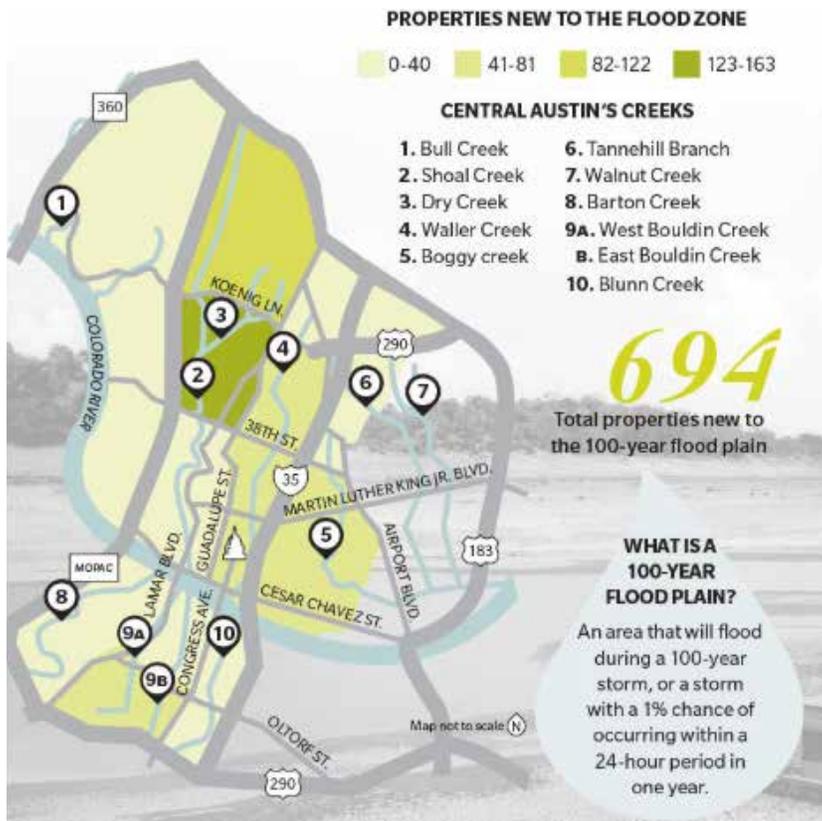


Figure 3: Properties New to the Flood Zone

**100-YEAR
STORM EVENT
INCREASES
2-3 INCHES**

CITY OF AUSTIN CODE PROPOSAL

The City of Austin regulates new development, redevelopment and remodeling in the floodplain. These regulations are meant to protect residents from flooding and reduce public expense in the aftermath of a flood. As a result of the Atlas 14 Study, the City of Austin is proposing to change City code in order to protect the public from flooding. The proposal has four main components, as outlined below:

1. The proposal uses an interim 100-year floodplain, based on the current FEMA 500-year flood insurance rate map, to regulate development. This change means that the floodplain regulations will apply to more properties. Property owners and businesses in the interim 100-year floodplain would have new restrictions if they want to develop, expand, remodel or improve their properties. The City of Austin estimate that there are approximately 7,200 buildings in the interim 100-year floodplain.
2. The City of Austin includes a new exception that will allow for the administrative approval for redevelopment of a residential building in the floodplain that reduces flood risk. Currently, this often requires approval by the Austin City Council.
3. The proposal recommends expanding an existing exception that allows for a building to encroach on the 100-year floodplain of the Colorado River downstream of Longhorn Dam and along Lady Bird Lake to also include Lake Austin and parts of Lake Travis.
4. The proposal recommends an increase in the freeboard requirement for buildings from one foot to two feet.

PROPOSED
CODE CHANGES
AUSTIN TX

ADDITIONAL IMPACTS TO CONSIDER

Aside from new City regulations that will impact property owners, the Atlas 14 Study also has additional far-reaching impacts as outlined below:

- Flood Insurance – The City of Austin estimates that the number of buildings in the 100-year floodplain could increase from 4,000 to 7,200. Affected residents who have federally-backed mortgages will eventually have to purchase flood insurance. Those who already have flood insurance will likely see the costs go up. This will affect businesses, too. Residents and business owners in the interim 100-year floodplain should talk to their insurance agent about purchasing flood insurance. Impacts to flood insurance will occur after FEMA approves updated floodplain maps, estimated to occur in 2023 or 2024.
- Pipes and Ponds – Both public and private storm drain pipes, bridges, detention ponds and other drainage infrastructure will need to be larger to handle the changes associated with updated design requirements for the new storm levels.

UPCOMING PUBLIC HEARINGS

Since September 2018, Austin’s Watershed Protection Department has held meetings to gather input from various stakeholder groups and the public. Following all public hearings, the Austin City Council will consider adopting the proposed regulations.

Interested in attending? The tentative schedule for the remaining public hearings about the proposed regulations are highlighted below:

- Zoning and Platting Commission – Tuesday, September 17, 2019
- Planning Commission – Tuesday, September 24, 2019
- Austin City Council – Thursday, October 17, 2019

For more information, visit the City of Austin’s official website:

<http://austintexas.gov/atlas14>

<http://austintexas.gov/page/flood-risk-and-atlas-14-details>

CONTACT US
WWW.PARKUSA.COM
713-937-7602
ENG@PARKUSA.COM
7015 FAIRBANKS N. HOUSTON RD.
HOUSTON, TX 77040