

**RULE NO.: R161-21.19**

**POSTING DATE: July 22, 2021**

### **NOTICE OF PROPOSED RULE**

The Director of Watershed Protection Department proposes to adopt the following rule on or after August 23, 2021.

Comments on the proposed rule are requested from the public. Comments should be submitted to Kelly Strickler, at [kelly.strickler@austintexas.gov](mailto:kelly.strickler@austintexas.gov) or (512) 974-1845. To be considered, comments must be submitted before August 23, 2021, the 32nd day after the date this notice is posted. A summary of the written comments received will be included in the notice of rule adoption that must be posted for the rule to become effective.

An affordability impact statement regarding the proposed rule has been obtained and is available by contacting Kelly Stricker at [kelly.stricker@austintexas.gov](mailto:kelly.stricker@austintexas.gov) or (512) 974-1845.

### **EFFECTIVE DATE OF PROPOSED RULE**

A rule proposed in this notice may not become effective before the effective date established by a separate notice of rule adoption. A notice of rule adoption may not be posted before August 23, 2021 (the 32nd day after the date of this notice) or not after September 30, 2021 (the 70th day after the date of this notice).

If a proposed rule is not adopted on or before September 30, 2021, it is automatically withdrawn and cannot be adopted without first posting a new notice of a proposed rule.

### **TEXT OF PROPOSED RULE**

The text of the proposed rule, indicating changes from the current text, is attached to this notice. Additionally, a copy of the complete text of the proposed rule is available for public inspection and copying at the following location: Office of the City Clerk, 301 W. 2nd Street, Austin, Texas.

## BRIEF EXPLANATION OF PROPOSED RULE

R161-21.19: Modifies the Drainage Criteria Manual as follows:

- DCM Section 1: Drainage Policy
  - Section 1.2.5 *Computations* – Updated to reflect when two-dimensional hydraulic modeling is appropriate in lieu of one-dimensional modeling to determine water surface elevations.


## AUTHORITY FOR ADOPTION OF PROPOSED RULE

The authority and procedure for the adoption of a rule to assist in the implementation, administration, or enforcement of a provision of the City Code is established in Chapter 1-2 of the City Code. The authority to regulate design and construction of drainage facilities and improvements is established in Section 25-7-64 of the City Code.


## CERTIFICATION BY CITY ATTORNEY

By signing this Notice of Proposed Rule (R161-21.1), the City Attorney certifies the City Attorney has reviewed the rule and finds that adoption of the rule is a valid exercise of the Director's administrative authority.

## REVIEW AND APPROVED

  
\_\_\_\_\_  
Jorge L. Morales, P.E., CFM, Director  
Watershed Protection Department

Date: 07/20/2021

 for  
\_\_\_\_\_  
Anne Morgan  
City Attorney

Date: 7/21/2021

This Notice of Proposed Rule was posted on the City website by the City Clerk. Date and time stamp is on the front of the notice.

### 1.2.5 - Computations

Computations to support all drainage designs shall be submitted to the appropriate City departments for review. The computations should be in such form as to allow for timely and consistent review and also to be made a part of the permanent City record for future reference. All computations submitted shall be certified by a professional engineer registered in the State of Texas.

The City of Austin maintains and makes available to the public engineering models for floodplain and storm drain analysis. The models maintained and distributed by the City have been developed in the computer simulation packages listed in the following table. The City maintains licenses and expertise in these computer simulation packages. Drainage studies based on computer simulation packages other than those listed in the table and any studies based on two-dimensional model simulations must receive a waiver approved by the Director of the Watershed Protection Department. Applicants submitting studies based on versions of the software listed in the table that are not the latest available versions should coordinate with the Watershed Protection Department prior to submittal.

#### City of Austin Standard Engineering Models for Drainage Analysis and Design

Hydrologic Analysis for Floodplain Studies	HEC-HMS
Hydraulic Analysis for Floodplain Studies	HEC-RAS
Detention Pond Design	HEC-HMS, PondPack
Storm Drain Analysis and Design (Steady State)	StormCAD
Storm Drain Analysis and Design (Unsteady State)	CivilStorm

#### A. Two-Dimensional Model Simulations

The hydraulic modeling used to determine water surface elevations along creeks and open channels is typically completed using a one-dimensional (1-D) hydraulic model. These models are based on an underlying assumption that the conveyance of stream flow and associated velocities are only significant in the primary direction of the flow of the studied stream. These models generally provide an accurate representation of flood risk for most stream systems.

Two-dimensional (2-D) hydraulic models may be used in situations where a 1-D model may not be able to provide accurate results. 2-D models are most applicable to streams in flat terrain with broad floodplains where flow is moving in two or more directions, or when flow becomes hydraulically disconnected between the main channel and portions of the floodplain.

The decision to use a 2-D model is up to the design professional. They must determine whether 2-D modeling is appropriate based upon the conditions that need to be analyzed. In general, the design professional should select the simplest model that can be used to represent a given flow situation with accuracy.