

Legislation Text

File #: 18-011, Version: 1

Presenter/Contact
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SUBJECT:

Discuss and consider approval of proposed amendments to the City of New Braunfels Drainage and Erosion Control Design Manual regarding channel and channel access requirements.

BACKGROUND / RATIONALE:

In accordance with the Code of Ordinances, the city engineer is hereby authorized and directed to promulgate city standards for the design, construction, installation, location and arrangement of drainage facilities. The city engineer shall submit such standards to the planning commission for recommendation to city council and, thereafter, file such standards with the city secretary at least ten days before they become effective. The city engineer may amend the standards from time to time, upon the recommendation of the planning commission to city council, and such amendment shall be filed with the city secretary at least ten days before it becomes effective.

The Drainage and Erosion Control Design Manual (DCM) is intended to establish uniform design practices for the design and construction of storm drainage and erosion control in New Braunfels and its extraterritorial jurisdiction. The DCM is specified in Section 143-2(b) of the City of New Braunfels Code of Ordinances as part of the official stormwater management plan. The manual neither replaces the need for engineering judgment nor precludes the use of information not presented in the manual.

The following amendments are proposed to the DCM to address frequent review comments, maintenance issues and clarify design criteria to improve the development process:

Section 2.3 - Clarify and revise channel definition, design frequency and freeboard requirements.

Freeboard requirements are specified in Section 2.3. Freeboard is the factor of safety above a design flood level to compensate for many unknown factors that could contribute to stormwater heights greater than the height calculated. Design frequency and minimum freeboard for drainage facilities, including channels and creek improvements, are provided in Table 2-2. Footnote and definition text in the DCM has led to uncertainty on the freeboard requirements for channels; therefore, staff is proposing to clarify and revise definitions, design frequency and minimum freeboard requirements.

The channel drainage facility is proposed to be separated from creek improvements and swale and ditches removed. Channels with drainage areas greater than 128 acres shall meet the current requirement of a 100-year storm event plus 1 foot of freeboard. Channels with drainage areas less than or equal to 128 acres shall be designed to contain the 100-year storm event or 25-year storm event plus minimum freeboard, whichever is greater.

Sections 2.10.2 and 8.1 - Clarify easement and maintenance access criteria.

Access to channels is critical for maintenance, inspection and repair. The DCM provides the following criteria on easement and maintenance access:

- Maintenance access shall be provided for all channels and have a width of 12 feet and a cross slope no greater than 2 percent.
- Easement width shall be the width of the 100-year water surface and a clear width of 14 feet, minimum, shall be included for access.

The Platting Ordinance also states that easements along open channels shall provide sufficient width for the channel and such additional width for maintenance equipment.

Staff is proposing to clarify the requirements by specifying that easements for channels shall extend 2 feet on one side and 12 feet on the other side for maintenance access. Easements that parallel and adjoin a roadway shall extend out 2 feet on both sides of the channel. That clarification supports the current requirements and will includes figures. Additionally, it is proposed that maintenance access shall be provided at a minimum spacing of one access at 1,000 foot intervals and that the bottom of the channel cannot be considered for maintenance access.

Section 8.1 - Specify when a concrete pilot channel is required.

Staff is proposing to specify that a 4 foot, minimum, concrete pilot channel is required for a channel when the longitudinal slope is less than 0.5 percent and when the bottom width of a channel is greater than 30 feet. This generally follows standard practice and City of San Antonio requirements, and address anticipated maintenance issues based on existing drainage complaints.

Section 8.1 - Specify when fencing is required for concrete channels.

Staff is proposing to specify that a 42 inch, minimum, fence or rail be required adjacent to a concrete channel where vertical walls exceed 2 feet and where side slopes exceed 2:1 and the depth is greater than 2 feet.

Staff considers the proposed amendments to the DCM necessary to protect the public health, safety and welfare, and adhere to standard engineering practice. The amendments also clarify drainage infrastructure requirements to assist in the development review process.

Staff notified the engineering community of the proposed changes on December 27, 2017 and posted them online on January 4, 2018. Staff presented the item to Planning Commission on January 9, 2018.

Staff received one request to consider increasing the vertical wall and side slope requirement to 30 inches (2.5 feet) to be consistent with International Building Code railing requirements. Staff is not opposed to the request.

ADDRESSES A NEED/ISSUE IN A CITY PLAN OR COUNCIL PRIORITY:

2006 Comprehensive Plan: Goal 31: Develop a regional drainage system that protects personal property, traffic flow, and the environment.

2006 Comprehensive Plan: Goal 33: Protect citizens and existing and future development from flood damage.

FISCAL IMPACT:

N/A

COMMITTEE RECOMMENDATION:

The Planning Commission recommended approval of the amendments to the City of New Braunfels Drainage and Erosion Control Design Manual on January 9, 2018, on a motion that carried unanimously.

STAFF RECOMMENDATION:

Staff recommends approval of the proposed amendments to the City of New Braunfels Drainage and Erosion Control Design Manual.