Littleton
Colorado

FLOODPLAINS…a refresher

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Floodplain Regulation and Management

Federal

State

Local

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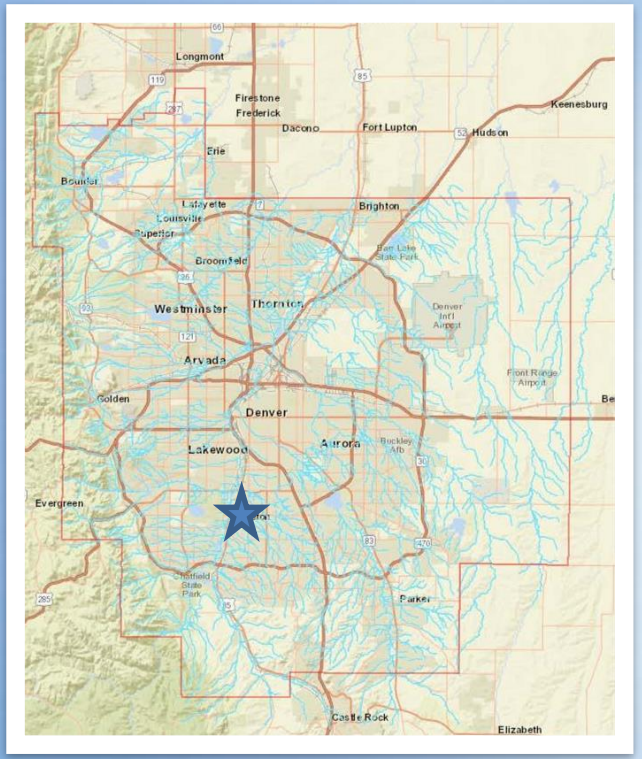
Urban Drainage Flood Control District (UDFCD)

January 23, 2017

Planning
Commission
Study Session
with UDFCD



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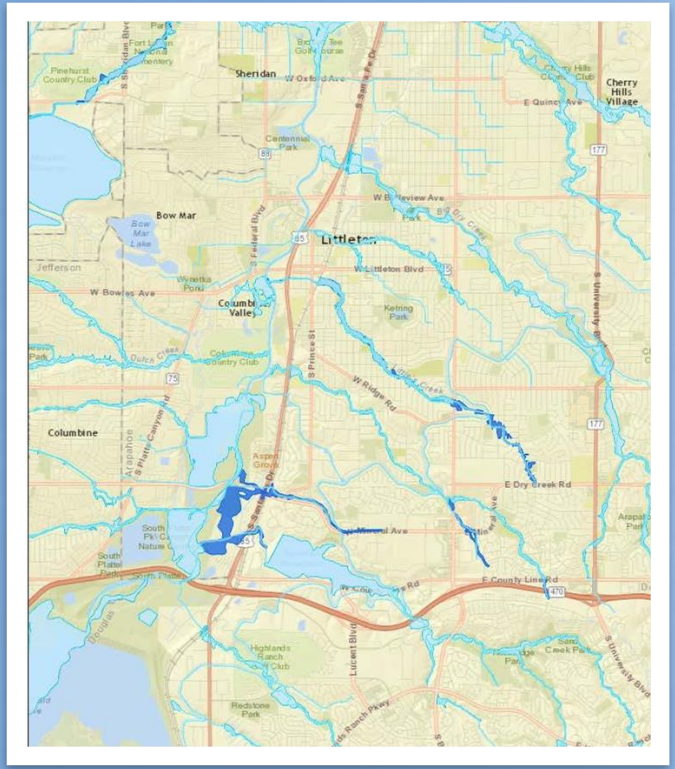
FEMA vs. Local Floodplains



FEMA map service center:

https://msc.fema.gov/

>1 square mile in drainage area
Sets elevations for flood insurance

UDFCD:

www.udfcd.org/mapping

Identifies other flood risks

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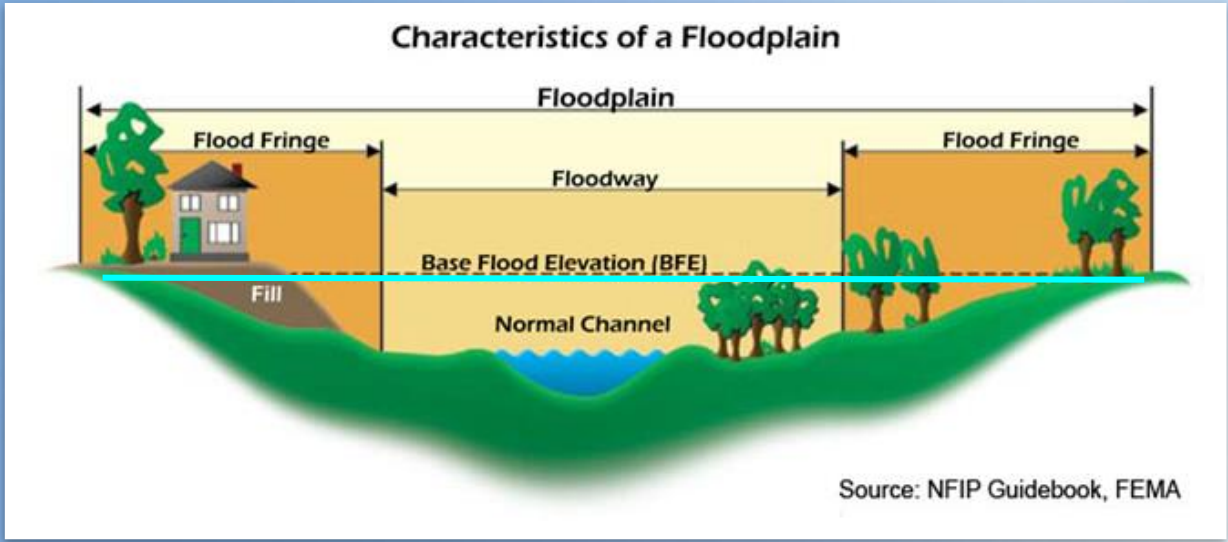

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Floodplain Regulation and Management

- Littleton is a National Flood Insurance Program (NFIP) Community
- Required to develop floodplain regulations that meet or exceed federal and state regulations
- City's floodplain regulations are in Municipal Code Title 10, Chapter 6.

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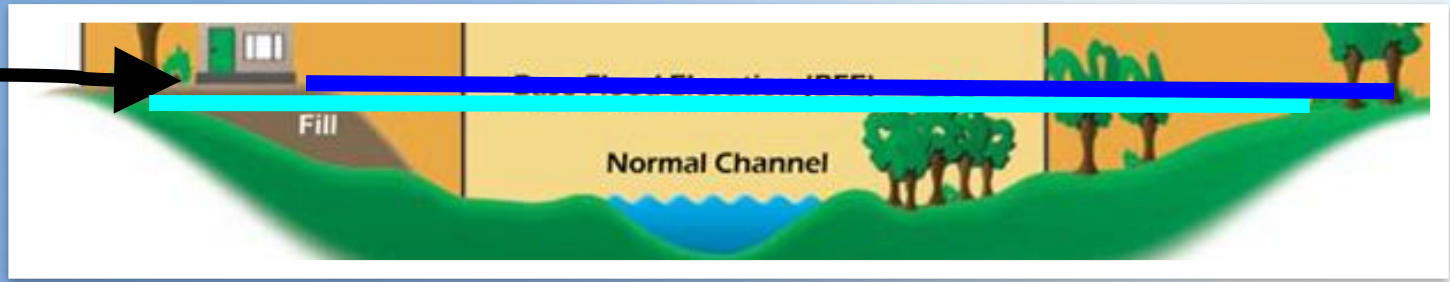
Floodplain Regulation and Management

Fictional Example:

An applicant wants to build a new housing community called Riverview, next to the Littletonia River. The applicant is going to bring in a lot of dirt to put in the floodplain and put the houses on it. The dirt and houses will change the floodplain width and possibly its depth. The applicant has to perform a hydraulic study to determine what that new floodplain looks like, and verify that the houses will be out of it, to meet the City's code requirements. This is the purpose of the Floodplain Use by SEP.

Houses on embankment fill



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Review Process (10-6-8)

Applicant submits Floodplain Use by Special Exception Permit (SEP) application with new floodplain study and delineation

City floodplain administrator and staff review application and sends out referrals to ensure meets the City FP regulations and technical content is sound

Staff recommends approval of SEP to Planning Commission

Planning Commission approves, approves with conditions,or denies application

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Review by Floodplain Administrator

1. Ensure application meets all requirements of 10-6-8
2. Technical review of hydrologic and hydraulic modeling, and validity of the results
3. Referral to UDFCD

➢ ***Lots of eyes scrutinizing the floodplain study***

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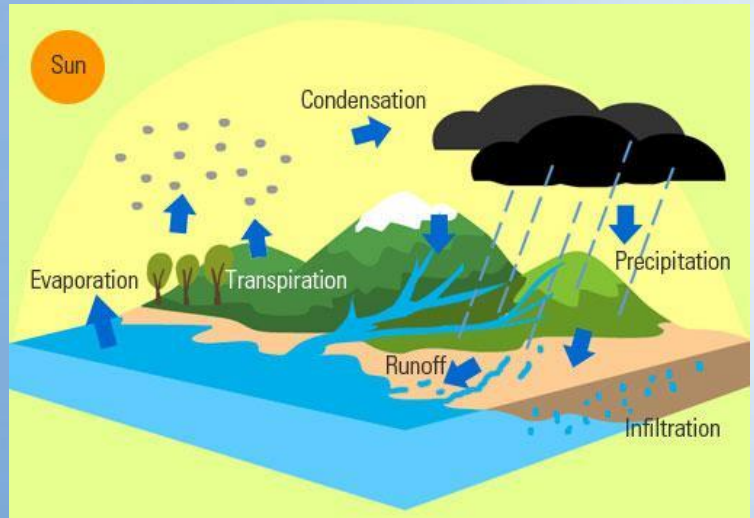
Hydrologic and Hydraulic Modeling

Hydrology is the study of how much rainfall actually makes it to a river/creek/drainageway. UDFCD has developed computer models calibrated to the Denver metro area, and correlated to actual stream gage data to make these studies as accurate as possible. Also called rainfall-runoff models.



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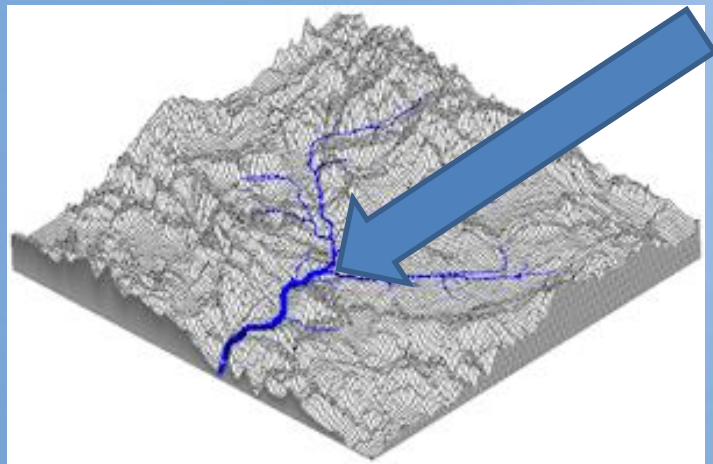
Hydrologic and Hydraulic Modeling

Hydraulics is the study of how deep, wide, and quickly the water in the drainageway moves. The flows predicted in the hydrology model are sent through the drainageway using topographic survey (elevations of the land) and estimates of flow resistance due to vegetation, rocks, buildings, etc to determine how deep it will be. The depth of water is then mapped to generate a map of the width of the floodplain (from aerial view).



Water from the hydrology study put onto the land

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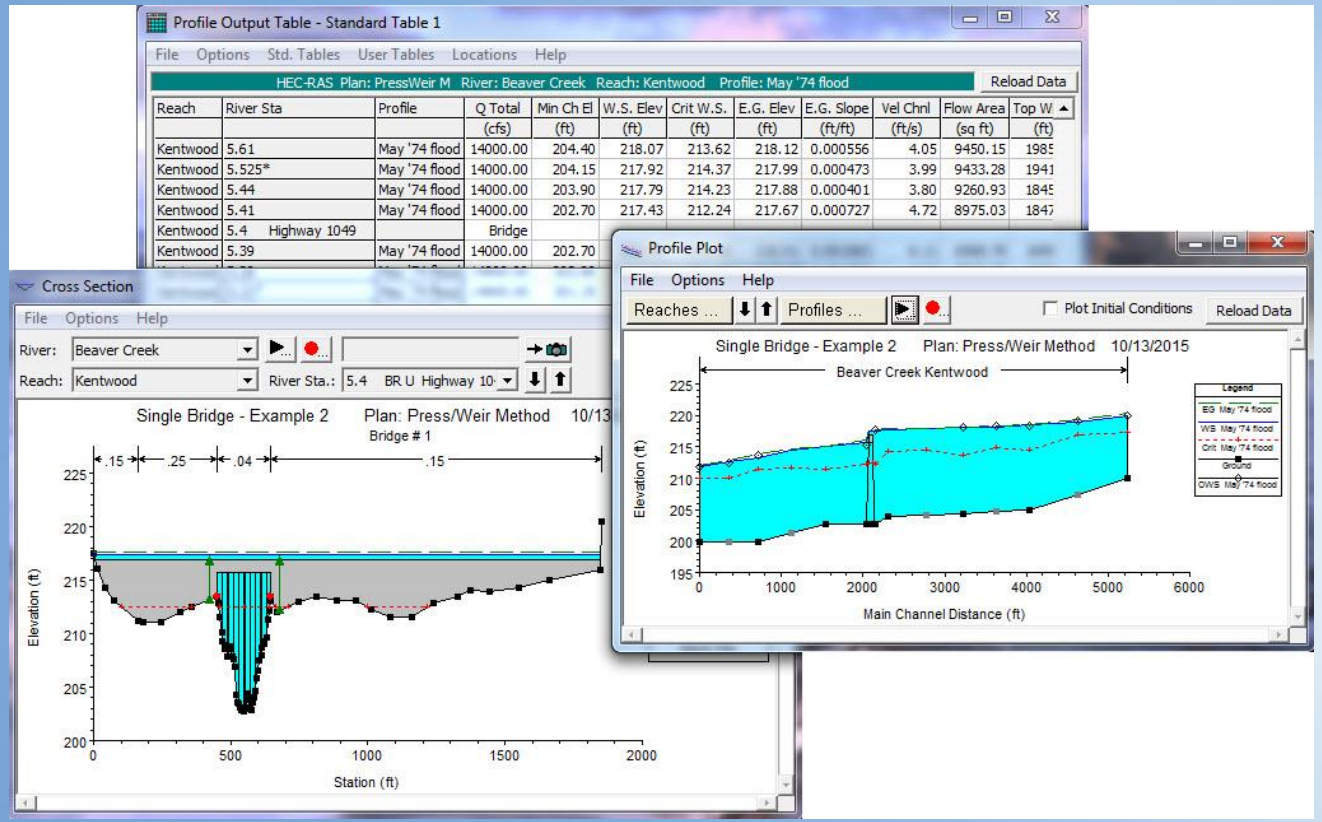
Hydraulic Modeling



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Floodplains as an Amenity

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QUESTIONS?

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