

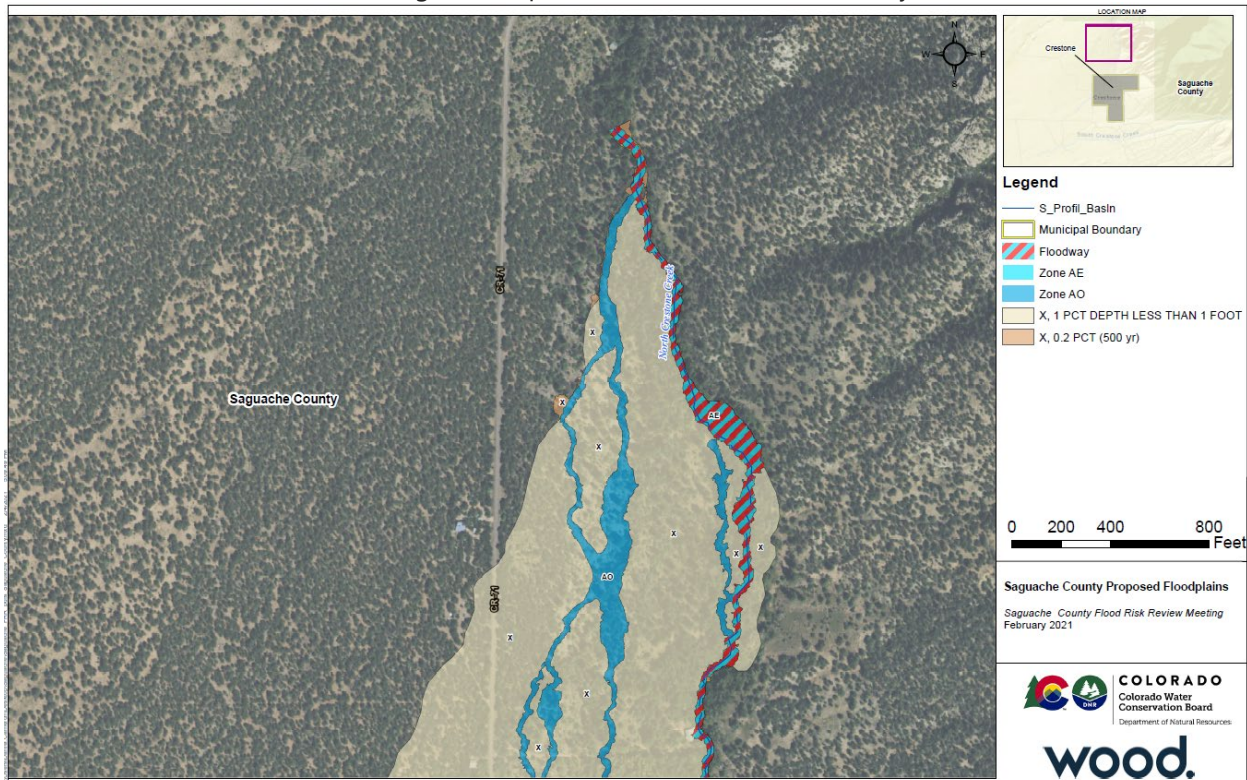
Project Name: Saguache County Mapping Updates
Meeting: Town of Crestone Flood Hazard Study Updates
Date & Time: July 8, 2021, 1:00 PM – 1:30 PM
Place: Virtual Zoom Meeting

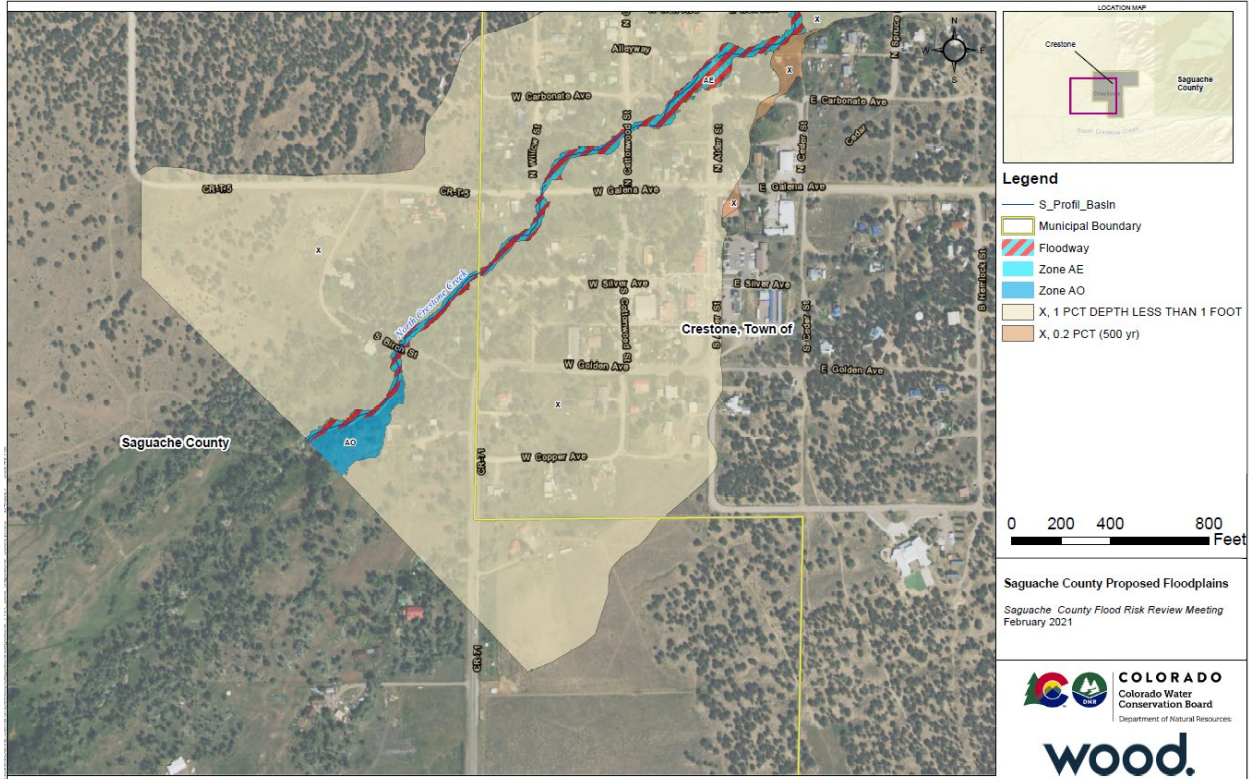
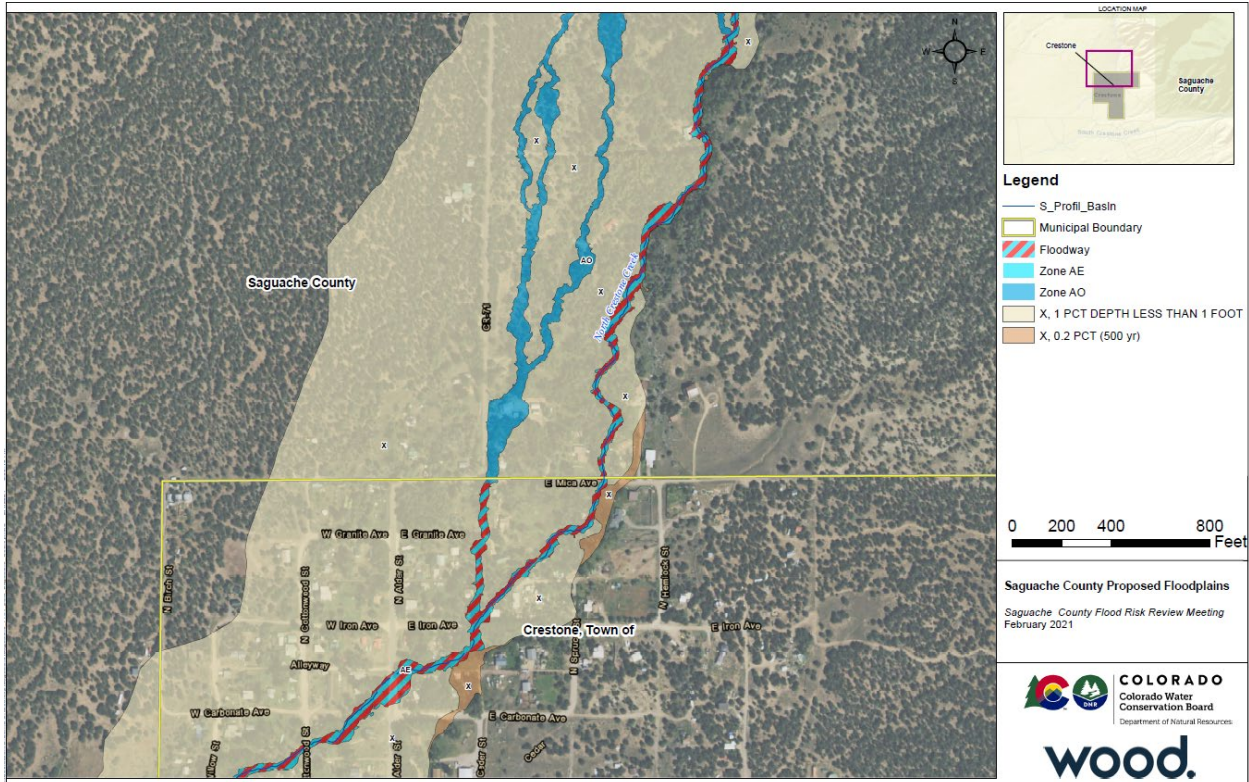
• **Welcome and Introductions**

- Allyson Ransom, Town of Crestone
- Robin McPeck, Town of Crestone
- Terri Fead, CWCB
- Marta Blanco Castano, CWCB
- Doug Mahan, CWCB
- Chris Ide, Wood
- John Loranger, Wood
- Josh Hill, Wood

• **Project Background & Path Forward**

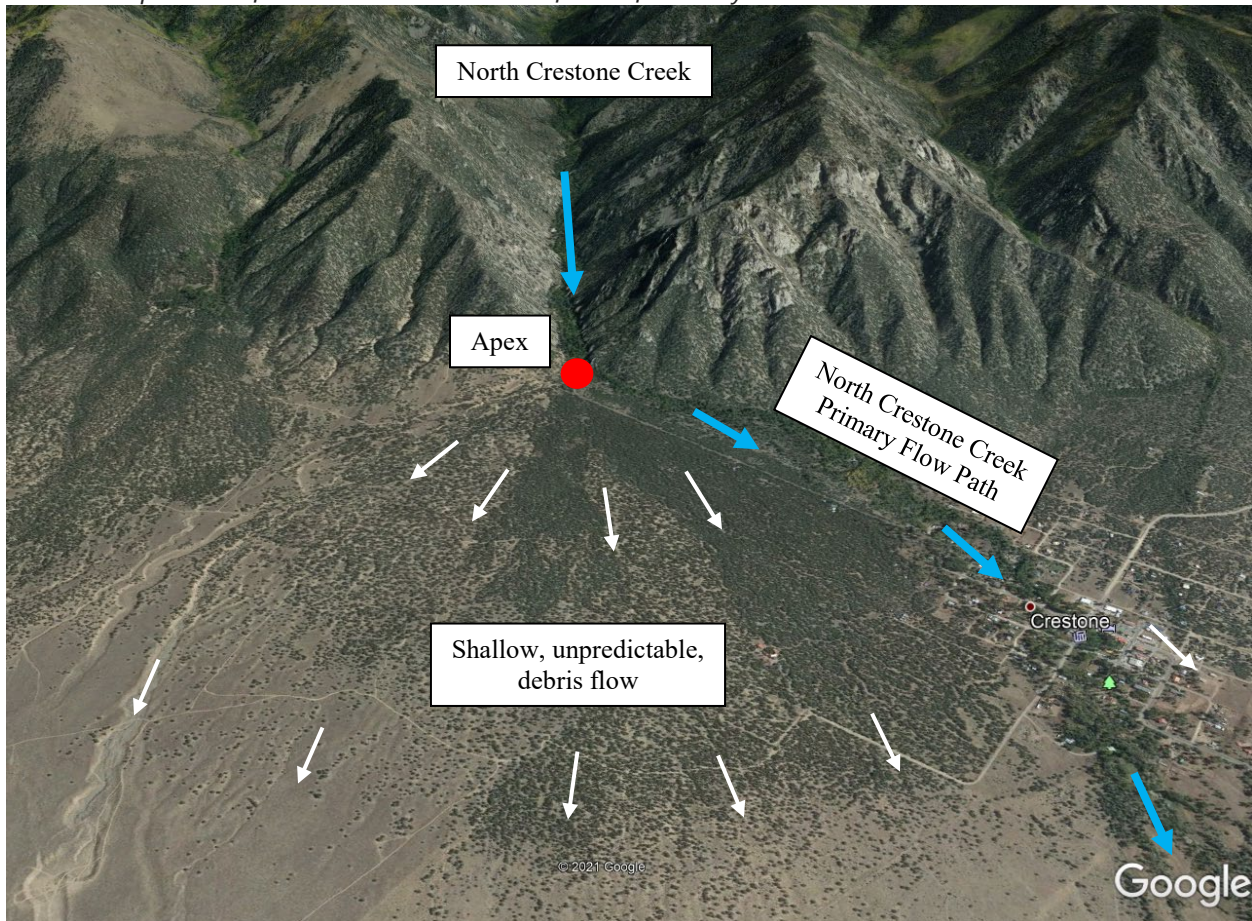
- At the Saguache County and Communities Flood Risk Review Meeting in February of 2021, Wood presented the proposed floodplains for North Crestone Creek. These were determined using standard riverine hydraulic modeling methods.
- The proposed floodplain zones included a Zone AE Floodway along the concentrated main channel flow path, Zone AO (shallow flood zone) along some of the minor concentrated flow paths, and then Zone X (shallow flood zone) for the shallow/sheet flow areas, as shown in the screenshots below, starting at the upstream (north) end of the study.



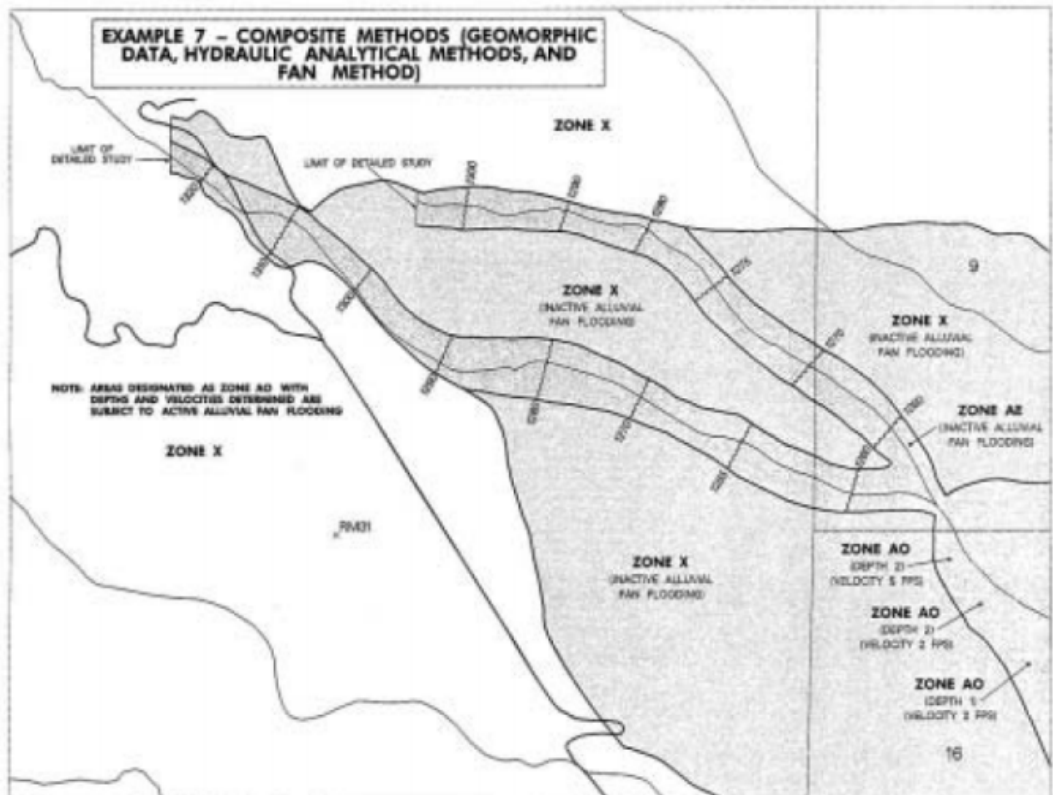
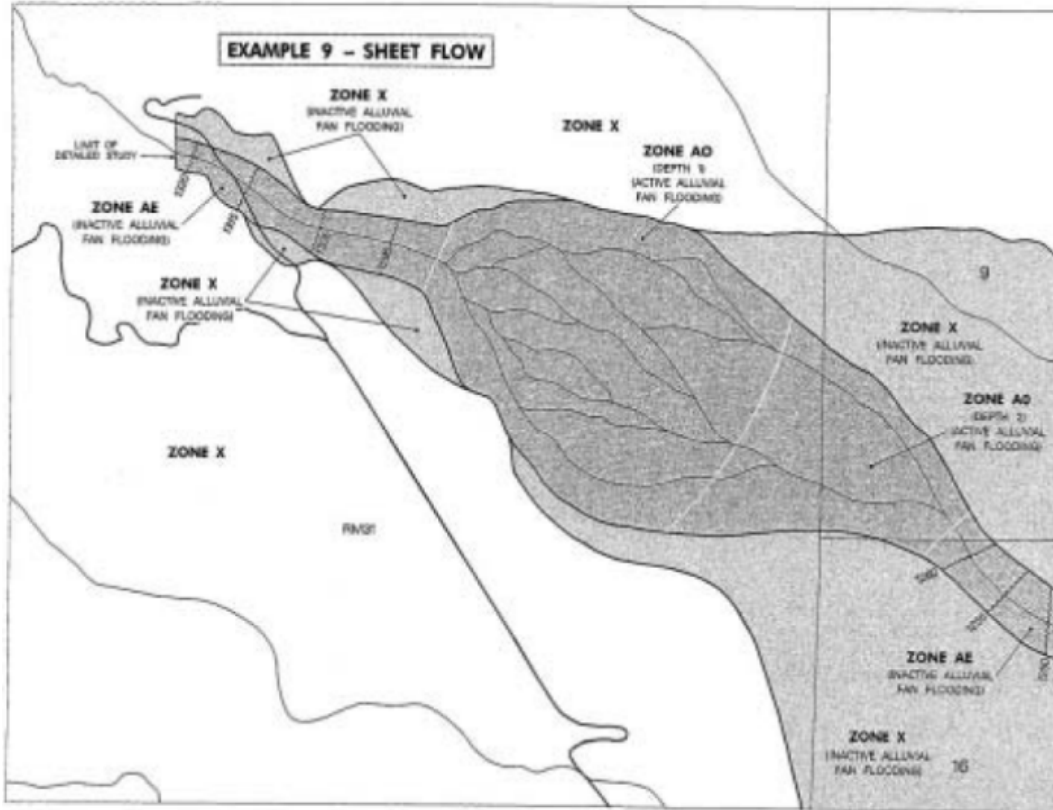


- At the Floodplain Mapping stage of the project, FEMA determined that because North Crestone Creek is on an alluvial fan, that the hydraulics of the stream should be re-analyzed by conducting a full alluvial fan analysis, following FEMA’s alluvial fan guidance.

“An alluvial fan is an accumulation of sediment that is spread out in a fan or cone shape that originates from an apex, which is usually located where water exits a narrow canyon or similar geologic feature. Flood flows through an alluvial fan can be unpredictable as erosions and deposition of sediment occurs and the flows often carry debris and sediment.”



- Wood will develop a hydraulic model of North Crestone Creek using the FLO-2D model software, which will account for erosion and deposition of sediment as well as debris flow, that will follow the standard [FEMA alluvial fan guidance](#). The FLO-2D model software is more complex than what is typically used for a standard riverine flood analysis (i.e the U.S. Army Corps of Engineers HEC-RAS), but is what needs to be used to accurately model the alluvial fan flooding of North Crestone Creek.
- The results of the new FLO-2D model will then be used to delineate the new flood zones for North Crestone Creek. The new flood zones will likely look something similar to the figures shown below from the FEMA alluvial fan guidance, and will likely have areas of **Zone X** (minor flood hazard and potential flood insurance implications); **Zone AO** (shallow sheet flooding, moderate flood hazard and some insurance implications); and **Zone AE/Floodway** (deeper, concentrated flooding, mandatory flood insurance for federally backed mortgage properties, plus more restrictive development implications).



- The resulting floodplain delineations determined from the FLO-2D alluvial fan model are pending FEMA funding in Fiscal Year 2021. Depending on when this becomes available, we anticipate the modeling will be ready sometime in late Fall 2021. At that time, we will set up another meeting for you all to review the results and provide feedback.
- **Questions & General Discussion**
 - Allyson asked if the Town of Crestone Ordinances need to be updated to account for the alluvial fan analysis floodplains vs. floodplains determined from a standard riverine analysis. Doug stated that this was not required, and the ordinances can remain as-is.