



COLORADO

**Colorado Water
Conservation Board**

Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Kevin Houck, P.E. CFM
Watershed & Flood Protection Section

DATE: October 31, 2022

AGENDA ITEM: Consent Agenda Item 2. November 16-17, 2022 Board
Meeting - Floodplain Designation

Background: Consent Agenda Item 2 includes one new floodplain study that is proposed for CWCB action. Staff is requesting Board designation and approval for this item. A brief summary of the study is presented in the attached document.

CWCB staff performs technical reviews of floodplain information to assure the Board that the information complies with the requirements of the CWCB's "Rules and Regulations for Regulatory Floodplains in Colorado," 2 CCR 408-1. The attached document provides a further discussion of legislative authority and responsibilities delegated to the CWCB. The CWCB's designation and approvals greatly assist local communities in meeting the statutory requirements of the State and the regulatory requirements of the National Flood Insurance Program.

Additional supporting information for this item is attached.

Requested action for Floodplain Resolution 22-732: Staff recommends that the Board: 1) designate and approve the 100-year and 500-year detailed floodplain and floodway information contained in said report for Clear Creek, 6th Avenue Split, Tabor Lake Split, North Overflow Split, South Overflow Split, 44th Avenue Split, and Federal Split and 2) authorize staff to prepare a floodplain resolution to be signed by the Director and transmitted to Mile High Flood District, City of Golden, City of Wheat Ridge, City of Arvada, City and County of Denver, Jefferson County, Adams County, and FEMA. This action is recommended in order to meet statutory requirements.

Attachment - Supporting Information

Consent Agenda Item 2 - Floodplain Designation

November 2022

Summary

Consent Agenda Item 2 includes one floodplain study/map that is proposed for CWCB action. Staff is requesting Board designation and approval for this item. A brief summary of the study is presented below.

CWCB staff performs technical reviews of floodplain information to assure the Board that the information complies with the requirements of the CWCB's "Rules and Regulations for Regulatory Floodplains in Colorado," 2 CCR 408-1. Furthermore, Sections 31-23-301 and 30-28-111, Colorado Revised Statutes, state that legislative bodies of local jurisdictions may provide zoning regulations for land uses on or along any storm or floodwater runoff channel or basin only after designation and approval by the CWCB. In addition, Section 37-60-106(1)(c), Colorado Revised Statutes, directs the CWCB to designate and approve storm or floodwater runoff channels or basins and to make such designations available to legislative bodies of local jurisdictions.

The CWCB's designation and approvals greatly assist local communities in meeting the statutory requirements of the State and the regulatory requirements of the National Flood Insurance Program. Floodplain information is broadly categorized as detailed or approximate using the following definitions. Detailed floodplain information means floodplain information prepared using topographic base maps, hydrologic analyses, and hydraulic calculations to arrive at precise water surface profiles and floodplain delineations suitable for making land use decisions under statutorily authorized zoning powers. Approximate floodplain information means floodplain information prepared using a significantly reduced level of detail to arrive at floodplain (hazard delineation) without water surface profiles.

CWCB staff performs technical reviews on the following types of reports and maps for approval and designation by the Board:

"Flood Insurance Study" (FIS), which is produced by the Federal Emergency Management Agency (FEMA) and used for floodplain management, regulation, and insurance purposes.

"Flood Insurance Rate Map" (FIRM), which is produced by FEMA and used for floodplain management, regulation, and insurance purposes. A FIRM may be published with or without an associated hydrologic and hydraulic report.

"Flood Hazard Boundary Map" (FHBM), which was produced by the Federal Insurance Administration and are used for floodplain management, regulation, and insurance purposes. An FHBM usually depicts approximate floodplain boundaries only, and does not have an accompanying report. Note: For all FHBM designations, the CWCB staff will perform (in-house or by contract with a consultant) hydrologic analyses.

“Floodplain Information Report”, which is produced by local governments, state and federal agencies, special districts, or the private sector, and are used for floodplain management purposes and sometimes adopted by FEMA for use in Flood Insurance Rate Map revisions.

Various hydrology studies and related floodplain studies (community-wide or site specific) that depict 100-year floodplain information that is useful for floodplain management purposes.

“Floodplain Information” is a generic term used to describe any of the above types of reports and/or maps in the CWCB’s “rules and regulations...”

“Floodplain Resolution” is a formal document prepared by CWCB staff describing the Floodplain Information that is to be designated and approved by the Board.

Summary of Designation Actions

Floodplain resolution number: FPR #22-732

Affected communities: City of Golden, City of Wheat Ridge, City of Arvada, City and County of Denver, Jefferson County, Adams County

Name of study to be formally acted on: “Flood Hazard Area Delineation, Clear Creek”, by ICON Engineering, Inc., dated September 2022.

Studied streams: This report includes detailed 100-year and 500-year hydrologic and hydraulic information for Clear Creek, and six modeled spill locations - 6th Avenue Split, Tabor Lake Split, North Overflow Split, South Overflow Split, 44th Avenue Split, and Federal Split. The studied streams are in the South Platte River watershed.

Technical Issues: This report was authorized by the Mile High Flood District (MHFD) under joint sponsorship with the City of Golden, the City of Wheat Ridge, the City of Arvada, the City and County of Denver, Jefferson County, and Adams County. The purpose of this report is to provide updated hydraulic information for an 18.2 mile reach of Clear Creek, from the confluence with the South Platte River to approximately 2,040 upstream of US Highway 6 in Golden, and its spill locations. The total watershed, including that upstream of the study area, drains an area of 570 square miles.

Hydrologic values were unchanged during this study. Current effective hydrology for this reach remains the same. Hydraulic analyses were carried out using the U.S. Army Corps of Engineers River Analysis System (HEC-RAS v. 5.0.7) based on steady flow conditions. Floodways were computed assuming 0.5’ rise criteria, which is consistent with both state and local jurisdiction regulations. During a major storm event, Clear Creek will spill in six locations, which were modeled and mapped as separate reaches. Depending on specific circumstances, these spill reaches were modeled either with one-dimensional or two-dimensional analyses.

Community Response: MHFD transmitted a letter to the CWCB dated October 24, 2022, requesting CWCB designation and approval of the subject report. No request letters were received from the other affected local governments. Conversations with staff from the partner jurisdictions indicate their desire for designation of this study.

Staff Findings: CWCB staff has determined that the subject 100-year and 500-year detailed floodplain and floodway information for the studied stream reaches is in conformance with the CWCB’s rules and regulations for floodplain designation and approval. The CWCB staff has relied on the technical competence of ICON Engineering, Inc., who produced the study, but also performed an independent technical review of the report. CWCB staff therefore endorses this study as containing the most current floodplain mapping available and urges the affected



communities to adopt said study for land use regulation purposes pursuant to statutory authority.

Requested action for Floodplain Resolution 22-732: Staff recommends that the Board: 1) designate and approve the 100-year and 500-year detailed floodplain and floodway information contained in said report for Clear Creek, 6th Avenue Split, Tabor Lake Split, North Overflow Split, South Overflow Split, 44th Avenue Split, and Federal Split and 2) authorize staff to prepare a floodplain resolution to be signed by the Director and transmitted to Mile High Flood District, City of Golden, City of Wheat Ridge, City of Arvada, City and County of Denver, Jefferson County, Adams County, and FEMA. This action is recommended in order to meet statutory requirements.

