

# STATE OF COLORADO

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## Colorado Water Conservation Board Department of Natural Resources

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TO: Colorado Water Conservation Board Members

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

DATE: November 5, 2012

SUBJECT: **Consent Agenda Item 4**  
**November 13-14, 2012 Board Meeting**  
**Watershed & Flood Protection Section – Floodplain Designation**

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John W. Hickenlooper  
Governor

Mike King  
DNR Executive Director

Jennifer L. Gimbel  
CWCB Director

### Background

Consent Agenda Item 4 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 is in compliance with the requirements of the CWCB's "Rules and Regulations for Regulatory Floodplains in Colorado," 2 CCR 408-1. A further discussion of legislative authority and responsibilities delegated to the CWCB, is provided in the attached document. 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.

### Staff Recommendation

Staff recommends that the Board: 1) designate and approve the 100-year detailed and approximate floodplain information contained in said study and 2) authorize staff to prepare floodplain resolutions to be signed by the Director reflecting the official designation and approval actions. This action is recommended in order to meet statutory requirements.

## **Attachment - Supporting Information**

### ***Consent Agenda Item 4 – Floodplain Designations November 2012***

#### **Summary**

Consent Agenda Item 4 includes one floodplain study with accompanying maps 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 is in compliance 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 12-642

**Affected communities:** Arapahoe County, City of Centennial, City of Littleton

**Name of study to be formally acted on:** “Flood Hazard Area Delineation, Littles Creek”, by AMEC Earth and Environmental, July 2012

**Studied streams:** This report includes detailed 100-year floodplain information for the entire Littles Creek watershed. The studied streams are in the South Platte River watershed.

**Technical Issues:** This report was authorized by the Urban Drainage & Flood Control District (UDFCD) under joint sponsorship with the Southeast Metro Stormwater Authority (SEMSWA). The purpose of this report is to develop detailed flood hazard data for the entire Littles Creek watershed, including Antelope Creek, one of its largest tributaries. The total study area includes approximately 2.65 square miles of drainage area. The total reach is 4.5 miles in length. Hydrologic analyses were performed using UDFCD’s Colorado Urban Hydrograph Procedure (CUHP, v. 1.3.3) and the EPA’s Stormwater Management Model (SWMM, v. 5.0). Hydraulic analyses were carried out using the U.S. Army Corps of Engineers River Analysis System (HEC-RAS v. 4.1.0) based on steady flow conditions. Floodways were computed assuming 0.5’ rise criteria, which is consistent with new state regulations.

**Community response:** UDFCD transmitted a letter to the CWCB dated September 24, 2012 requesting CWCB designation and approval of the subject report. SEMSWA transmitted a letter to the CWCB dated October 11, 2012 also requesting designation and approval. No request letters were received from the other affected local governments, but conversations with their staff and with UDFCD indicate their desire for designation.

**Staff findings:** CWCB staff has determined that the subject 100-year detailed floodplain information for the studied stream reaches is conformance with the CWCB’s rules and regulations for floodplain designation and approval. The CWCB staff has relied on the technical competence of AMEC Earth and Environmental, 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 12-642:** Staff recommends that the Board: 1) designate and approve the 100-year detailed floodplain information contained in said report for Littles Creek within the City of Centennial, the City of Littleton, and Arapahoe County, and 2) authorize staff to prepare a floodplain resolution to be signed by the Director and transmitted to UDFCD, the City of Centennial, the City of Littleton, Arapahoe County, SEMSWA, and FEMA. This action is recommended in order to meet statutory requirements.

## **STAFF RECOMMENDATION SUMMARY**

**Requested action for Floodplain Resolution 12-642:** Staff recommends that the Board: 1) designate and approve the 100-year detailed floodplain information contained in said report for Little Creek within the City of Centennial, the City of Littleton, and Arapahoe County, and 2) authorize staff to prepare a floodplain resolution to be signed by the Director and transmitted to UDFCD, the City of Centennial, the City of Littleton, Arapahoe County, SEMSWA, and FEMA. This action is recommended in order to meet statutory requirements.