



COLORADO
Colorado Water
Conservation Board
Department of Natural Resources

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John Hickenlooper, Governor

Bob Randall, DNR Executive Director

Rebecca Mitchell, CWCB Director

TO: Colorado Water Conservation Board Members

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

DATE: July 6, 2018

AGENDA ITEM: Agenda Item 23, Floodplain Designation

Background: Agenda Item 23 includes one new floodplain study that is proposed for CWCB action. Staff is requesting Board designation and approval for this item subject to the specific reaches included in the recommendation below. A 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 these items is attached.

Requested Action for Floodplain Resolution 18-691: Staff recommends that the Board: 1) designate and approve the detailed 100-year and 500-year floodplain and floodway information contained in said report for Little Thompson River, Fourmile Canyon Creek, Fourmile Creek, Gold Run, Left Hand Creek, St. Vrain Creek, and North St. Vrain Creek within Boulder County, and designate and approve the approximate 100-year floodplain information contained in said report for Geer Canyon, Little Thompson River, West Fork Little Thompson River, and James Creek also within Boulder County, and 2) designate and approve the detailed 100-year and 500-year floodplain and floodway information contained in said report for Big Thompson River (excluding Year 2, 2-D draft hydraulics model for the Big Thompson River and its tributaries through the City of Loveland and surrounding portions of unincorporated Larimer County), Buckhorn Creek, Little Thompson River, Redstone Creek, Dry Creek, Dickson Gulch, Cedar Creek, Quillan Gulch, Long Gulch, Tributary BT-1, Tributary BT-2, Tributary BT-3, Noel's Draw, Dark Gulch, Fox Creek, Black Canyon Creek, Dry Gulch, Fall River, Fish Creek, North Fork Big Thompson River, and West Creek within Larimer County, and designate and approve



the approximate 100-year floodplain information contained in said report for Buckhorn Creek, Dry Creek, Little Thompson River, North Fork Little Thompson River, West Fork Little Thompson River, and Redstone Creek also within Larimer County, and 3) authorize staff to prepare a floodplain resolution to be signed by the Director and transmitted to Boulder County and Larimer County and FEMA. This action is recommended in order to meet statutory requirements.



Attachment - Supporting Information

Agenda Item 23 - Floodplain Designation July 2018

Summary

Agenda Item 23 includes one floodplain study/map that is proposed for CWCB action. Staff is requesting Board designation and approval for this item. A 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 18-691

Affected communities: Boulder County, Larimer County

Name of study to be formally acted on: “Colorado Hazard Mapping Program, Larimer and Boulder Counties”, by CWCB/AECOM, with the following sub-documents

- Boulder County (excluding the 2D draft floodway reaches for Boulder Creek from Kenosha Rd/115th Street to the Weld County Line)
 - Colorado Hazard Mapping Program Hydraulic Analysis, Technical Support Data notebook (TSDN) for the Big Thompson Watershed (HUC-8 10190006), by CWCB/AECOM, submitted March 21, 2017; and,
 - Colorado Hazard Mapping Program Hydraulic Analysis, Technical Support Data notebook (TSDN) for the St. Vrain Watershed (HUC-8 10190005), by CWCB/AECOM, submitted April 2018; and,
 - Colorado Hazard Mapping Program Hydraulic Analysis - Volume 2, Technical Support Data notebook (TSDN) for the St. Vrain Watershed (HUC-8 10190005), by CWCB/AECOM, submitted June 2018.
- Larimer County
 - CHAMP Colorado Hazard Mapping Program Hydrology Technical Support Data notebook (TSDN) for the Big Thompson Watershed (HUC-8 10190006), by CWCB/AECOM, submitted March 2016; and
 - CHAMP Colorado Hazard Mapping Program Year 1 and Year 2 Draft Hydraulics for the Big Thompson Watershed (HUC-8 10190006), excluding Year 2, 2-D draft hydraulics model for the Big Thompson River and its tributaries through the City of Loveland and surrounding portions of unincorporated Larimer County, by CWCB/AECOM, submitted March 2017 for Year 1 and March 2018 for Year 2."

Studied streams: This report includes detailed 100-year and 500-year floodplain and floodway information for Little Thompson River, Fourmile Canyon Creek, Fourmile Creek, Gold Run, Left Hand Creek, St. Vrain Creek, and North St. Vrain Creek in Boulder County and Big Thompson River, Buckhorn Creek, Little Thompson River, Redstone Creek, Dry Creek, Dickson Gulch, Cedar Creek, Quillan Gulch, Long Gulch, Tributary BT-1, Tributary BT-2, Tributary BT-3, Noel’s Draw, Dark Gulch, Fox Creek, Black Canyon Creek, Dry Gulch, Fall River, Fish Creek, North Fork Big Thompson River, and West Creek within Larimer County.



This report includes approximate 100-year information for Geer Canyon, Little Thompson River, West Fork Little Thompson River, and James Creek in Boulder County and Buckhorn Creek, Dry Creek, Little Thompson River, North Fork Little Thompson River, West Fork Little Thompson River, and Redstone Creek in Larimer County.

The studied streams are in the South Platte River watershed.

Technical Issues: Many of the rivers affected by the September 2013 flood experienced significant geomorphological change resulting in post-flood topographic conditions that varied greatly from those prior to the flood. Restudies involving a significant amount of work have already begun for many of the affected reaches due to the legislative directive associated with SB 15-245. Phases I and II of the Colorado Hazard Mapping Program (CHAMP), one element of SB 245, has been completed to a draft phase, and public meetings have already been conducted in many of these watersheds in partnership with local governments.

This remapping effort includes new hydrology developed by CDOT and others, new basemapping that reflects topographic conditions after the geomorphological changes experienced by many Front Range streams during the 2013 flood, and new hydraulic analyses. This effort has been financed by State money, but eventually, it is the intent to place this information on to updated FEMA Flood Insurance Rate Maps. However, this is expected to take several years, and Boulder and Larimer Counties have indicated interest in regulating to this new data as best available information. These Counties have specifically requested designation in order to use this information for regulatory purposes prior to it becoming effective on FEMA maps. Traditionally, the CWCBC designation process occurs after FEMA maps become effective.

This designation request is only for reaches of the subject streams located in Boulder and Larimer Counties. Many of these waterways extend into neighboring communities. However, because the information is still considered DRAFT at this point, and designation requests have not been received from other communities, only reaches within unincorporated Boulder and Larimer Counties are included here.

It should be noted that the Year 1 CHAMP floodplain information was designated for Boulder County during the May 2017 meeting. Although much of that information was still considered DRAFT at the time, there were relatively straightforward technical processes and no known controversies in those reaches. Although they had not yet undergone final FEMA review, staff was comfortable recommending designation based on the technical adequacy of the studies and the confidence that any changes in the final review were certain to be very minor.

For all of the Larimer County reaches and all but one of the community requested Boulder County reaches, the same is true. On these reaches, the final FEMA review is complete or nearly complete, and staff is comfortable with the technical basis of the analyses. No known controversy exists in these reaches.

The one reach that is an exception to this *is being treated as an informational item only at this meeting and designation is not being requested with this reach.* This is the Boulder



Creek floodway between Kenosha Road/115th Street and the Weld County Line. The **floodplain** for Boulder Creek in this area was analyzed in Year 1 and was designated at the May 2017 CWCB Board Meeting. The **floodway** analysis was recently completed in DRAFT form and was requested for designation by the community at this meeting. There is a high level of controversy over this designation for many reasons, some political and economic, some technical.

The floodway was modeled using two-dimensional (2D) modeling techniques. It was originally attempted to model this using traditional 1D methods, but due to numerous split flows and complicated hydraulics, the modelers had trouble getting the model to converge on a solution. As a result, a decision was made to attempt a 2D analysis. -This model was completed and showed a very large floodway (nearly the full floodplain) through this reach.

2D modeling has been used for a number of years to this point, but it is only now beginning to get mainstream acceptance for FEMA regulatory floodplain mapping. It is a very complex modeling technique which allows water to flow in two directions(up and downstream as well as lateral), rather than a standard 1D model that only allows water to flow in one direction (downstream). Despite the need for a much higher level of background information, especially detailed topography, this modeling technique handles floodplains very well - in fact, in much more detail than 1D modeling can handle. Indeed, many industry experts indicate that this could soon become the standard for floodplain modeling.

However, 2D modeling of floodways is much more difficult and there is very little guidance from FEMA on 2D modeling of floodways. The reasons for this are very technical. In addition, there is not much precedent for the use of 2D floodways, either in Colorado or nationwide. In fact, CWCB staff is only aware of one other 2D floodway in use in Colorado - on South Boulder Creek, which was modeled using a different software package than that used here. Based on conversations with officials in other states, there are extremely few 2D floodways in use around the country.

Because of the complexity of the modeling and because CWCB staff do not have the technical resources to review this type of model, CWCB staff is requesting to table designation of this study until FEMA review can be completed and comments addressed.

Experts familiar with the modeling process have said that following review, it is likely that the eventual “final answer” will look very similar to the draft results currently available. This is a CWCB commissioned study, and staff have been involved throughout the process. That said, CWCB staff are unable to vouch for the technical adequacy of the results at this time until FEMA review is completed.

Community Response: This study was prepared by AECOM under contract with the Colorado Water Conservation Board. Numerous public meetings were held in areas affected by these stream reaches.



CWCB staff received a letter from Boulder County requesting designation of the subject streams on June 13, 2018. The letter indicates that the Board of County Commissioners will meet in July 2018 to consider adopting the subject reaches at the county level. This letter is requesting designation of the Boulder Creek floodway, but this is not included in this designation request.

CWCB staff received a letter from Larimer county requesting designation of the subject streams on June 14, 2018 requesting designation of the subject streams. The letter specifically requests excluding a 2D reach of the Big Thompson River as noted above.

In addition to the local governments, CWCB staff received a letter from Holsinger Law, Inc., on behalf of their client Crestone Peak Resources, on June 26, 2018. This letter requests the CWCB to table consideration of the Boulder Creek floodway until review and approval is complete and until stream restoration and bridge construction work is complete and incorporated into the modeling.

In regards to the Boulder Creek floodway, Boulder County has argued that because the final floodway will likely look similar to the current results (which CWCB staff agrees is likely true), that this information should be reviewed as Best Available Information and that it is in the public's best interest to begin regulating according to this.

The concern expressed by Crestone Peak Resources is that there is a proposed energy development on Boulder County open space affected by this floodway designation. State floodplain rules allow for development in floodway areas, even critical facilities such as these, as long as strict development measures are met. However, Boulder County landuse code does not allow for oil and gas development (and numerous other activities specified in local ordinance) in floodways. Hence, the classification of this area as floodway would limit the ability for oil and gas development in this area.

Staff Findings: CWCB staff has determined that the subject 100-year and 500-year detailed and approximate 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 studied stream reaches were developed by AECOM under contract and supervision of CWCB staff.

CWCB staff therefore endorses this study as containing the most current and best floodplain and floodway information available and urges the affected communities to adopt said study for land use regulation purposes pursuant to statutory authority.

In regards to the Boulder Creek floodway, staff intends to return to the Board for designation once FEMA review has been completed and staff is comfortable with the technical adequacy of the results. The request will come when staff is comfortable with the technical aspects of the results and will not consider political or economic circumstances. This is likely to happen in September or November 2018. Staff does not feel it is appropriate to table designation until constuction is completed elsewhere along the reach, as requested by Crestone Peak Resources.



Requested Action for Floodplain Resolution 18-691: Staff recommends that the Board: 1) designate and approve the detailed 100-year and 500-year floodplain and floodway information contained in said report for Little Thompson River, Fourmile Canyon Creek, Fourmile Creek, Gold Run, Left Hand Creek, St. Vrain Creek, and North St. Vrain Creek within Boulder County, and designate and approve the approximate 100-year floodplain information contained in said report for Geer Canyon, Little Thompson River, West Fork Little Thompson River, and James Creek also within Boulder County, and 2) designate and approve the detailed 100-year and 500-year floodplain and floodway information contained in said report for Big Thompson River (excluding Year 2, 2-D draft hydraulics model for the Big Thompson River and its tributaries through the City of Loveland and surrounding portions of unincorporated Larimer County), Buckhorn Creek, Little Thompson River, Redstone Creek, Dry Creek, Dickson Gulch, Cedar Creek, Quillan Gulch, Long Gulch, Tributary BT-1, Tributary BT-2, Tributary BT-3, Noel's Draw, Dark Gulch, Fox Creek, Black Canyon Creek, Dry Gulch, Fall River, Fish Creek, North Fork Big Thompson River, and West Creek within Larimer County, and designate and approve the approximate 100-year floodplain information contained in said report for Buckhorn Creek, Dry Creek, Little Thompson River, North Fork Little Thompson River, West Fork Little Thompson River, and Redstone Creek also within Larimer County, and 3) authorize staff to prepare a floodplain resolution to be signed by the Director and transmitted to Boulder County and Larimer County and FEMA. This action is recommended in order to meet statutory requirements.

STAFF RECOMMENDATION SUMMARY

Requested Action for Floodplain Resolution 18-691: Staff recommends that the Board: 1) designate and approve the detailed 100-year and 500-year floodplain and floodway information contained in said report for Little Thompson River, Fourmile Canyon Creek, Fourmile Creek, Gold Run, Left Hand Creek, St. Vrain Creek, and North St. Vrain Creek within Boulder County, and designate and approve the approximate 100-year floodplain information contained in said report for Geer Canyon, Little Thompson River, West Fork Little Thompson River, and James Creek also within Boulder County, and 2) designate and approve the detailed 100-year and 500-year floodplain and floodway information contained in said report for Big Thompson River (excluding Year 2, 2-D draft hydraulics model for the Big Thompson River and its tributaries through the City of Loveland and surrounding portions of unincorporated Larimer County), Buckhorn Creek, Little Thompson River, Redstone Creek, Dry Creek, Dickson Gulch, Cedar Creek, Quillan Gulch, Long Gulch, Tributary BT-1, Tributary BT-2, Tributary BT-3, Noel's Draw, Dark Gulch, Fox Creek, Black Canyon Creek, Dry Gulch, Fall River, Fish Creek, North Fork Big Thompson River, and West Creek within Larimer County, and designate and approve the approximate 100-year floodplain information contained in said report for Buckhorn Creek, Dry Creek, Little Thompson River, North Fork Little Thompson River, West Fork Little Thompson River, and Redstone Creek also within Larimer County, and 3) authorize staff to prepare a floodplain resolution to be signed by the Director and transmitted to Boulder County and Larimer County and FEMA. This action is recommended in order to meet statutory requirements.





Transportation Department

2525 13th Street, Suite 203 • Boulder, Colorado 80304 • Tel: 303.441.3900 • Fax: 303.441.4594
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

June 13, 2018

Rebecca Mitchell, Director
Colorado Water Conservation Board
1313 Sherman Street, Room 718
Denver, Colorado 80203

Re: Designation of flood hazard areas

Dear Ms. Mitchell,

Boulder County is requesting that the Colorado Water Conservation Board ("CWCB") consider the designation and approval of flood hazard areas within Boulder County, Colorado.

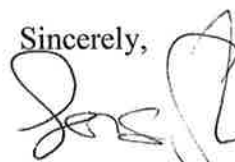
Boulder County has received and reviewed the following studies from CHAMP and is considering local adoption of the floodplain mapping through zoning map amendments for the Boulder County Floodplain Overlay District to include as part of the Floodplain Overlay District the extents within the unincorporated county of the 100-year floodplain as presented by the studies documented as follows, as modified to tie in to existing regulatory floodplain and floodway:

- Colorado Hazard Mapping Program Hydraulic Analysis, Technical Support Data notebook (TSDN) for the Big Thompson Watershed (HUC-8 10190006), submitted March 21, 2017 ; and,
- Colorado Hazard Mapping Program Hydraulic Analysis, Technical Support Data notebook (TSDN) for the St. Vrain Watershed (HUC-8 10190005), submitted April 2018 ; and,
- Colorado Hazard Mapping Program Hydraulic Analysis – Volume 2, Technical Support Data notebook (TSDN) for the St. Vrain Watershed (HUC-8 10190005), submitted June 2018.

We request that the CWCB consider the 100-year floodplains delineated by these studies, as modified, as described in more detail [on the Boulder County Land Use Docket Z-17-0002 webpage](#), for designation as flood hazard areas. Boulder County will be responsible for regulating the floodplains. The Boulder County Board of County Commissioners will be considering zoning map amendments to adopt the floodplain designations in the above listed studies at a public hearing scheduled for July 2018.

Please contact Varda Blum, Floodplain Program Manager, at vblum@bouldercounty.org or 720-564-2659 if you have any questions. Thank you for your consideration on this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Gerstle", with a large, stylized flourish extending upwards and to the right.

George Gerstle
Director

Cc: Kevin Houck, CWCB

LARIMER COUNTY | ENGINEERING DEPARTMENT

P.O. Box 1190, Fort Collins, Colorado 80522-1190, 970.498.5700, Larimer.org

June 14, 2018

Rebecca Mitchell, Director
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, Colorado 80203

RE: Designation of Flood Hazard Areas

Dear Ms. Mitchell:

Larimer County is requesting the Colorado Water Conservation Board (CWCB) consider the designation and approval of flood hazard areas within unincorporated Larimer County, Colorado.

The Larimer County Land Use Code (LCLUC) Section 11.3 states in part that “the floodplain administrator may use the best available information in addition to the information described in section 4.2.2.C, to make a determination and decision as to whether or not the affected properties are located within a floodplain.” Section 4.2.2.C refers to “the floodplain overlay zone districts are generally shown on the digital flood insurance rate maps (DFIRM).” Larimer County has regulated to best available floodplain information since the September 2013 flood.

We request the CWCB consider the designation and approval of the 100-year floodplain delineated by the following studies for unincorporated Larimer County. Larimer County will be responsible for regulating the floodplains in unincorporated Larimer County.

- CHAMP Colorado Hazard Mapping Program Hydrology Technical Support Data Notebook (TSDN) for the Big Thompson Watershed (HUC-8 10190006); and
- CHAMP Colorado Hazard Mapping Program Year 1 and Year 2 Draft Hydraulics for the Big Thompson Watershed (HUC-8 10190006), excluding the Year 2, 2-D draft hydraulics model for the Big Thompson River and its tributaries through the City of Loveland and surrounding portions of unincorporated Larimer County.

Please contact Eric Tracy, Floodplain Administrator, at etracy@larimer.org or 970-498-5729 if you have any questions. Thank you for your consideration on this matter.

Sincerely,



Mark Peterson
County Engineer

Cc: Kevin Houck, CWCB



June 26, 2018

VIA EMAIL TO: kevin.houck@state.co.us

Kevin Houck, P.E
Chief, Watershed and Flood Protection Section
Colorado Water Conservation Board
1313 Sherman St., Room 718
Denver, CO 80203

Re: *Boulder County's Floodway Hazard Mapping Revisions*

Dear Mr. Houck:

On behalf of our client, Crestone Peak Resources ("Crestone"), we are submitting the following comments relative to the Colorado Water Conservation Board's ("CWCB") pending approval of certain changes to the regulatory floodway in Boulder County ("Boulder"). We understand Boulder has taken the unusual step of asking CWCB to approve revisions prior to review and input from the Federal Emergency Management Agency ("FEMA"). Further, we understand significant, and perhaps ongoing, stream restoration and bridge construction work has been undertaken in the Lower Boulder Creek, which could ameliorate flood risks and alter modeling and results.

We urge CWCB to table consideration of these issues until: (1) FEMA review and approval is complete and based upon all relevant information; and (2) stream restoration and bridge construction work is complete and incorporated into any and all relevant modeling.

We have observed significant construction work associated with stream restoration and bridge construction activities along Lower Boulder Creek. Based on a letter from Boulder County Floodplain Management dated May 8, 2018 and

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the Boulder County Planning Commission's hearing on July 20, 2018, it has come to our attention that Boulder intends to drastically expand the extent of its regulatory floodway along Lower Boulder Creek.

Crestone holds property interests near Lower Boulder Creek between Kenosha Road and East County Line Road, and has serious concerns regarding the expansion of the regulatory floodway. Specifically, we question whether Boulder's proposed revisions sufficiently reflect stream restoration and construction activities that have likely already reduced the extent of the flood hazard risk along Lower Boulder Creek. Has Boulder accounted for the physical changes to Lower Boulder Creek and notified the CWCB or FEMA of these stream alteration activities and their potential impacts to floodway modeling? What data and methodology did Boulder use to calculate its proposed revisions to the floodplain and floodway? Did the CWCB or FEMA conduct an independent analysis of the floodplain data and account for these factors in Boulder's methodology?

Federal regulations require local communities to notify FEMA of changes that decrease base flood elevations within six months after such information becomes available. 44 C.F.R. § 65.3 (2018). CWCB's Nov. 17, 2010 Rules and Regulations for Regulatory Floodplains in Colorado (the "Rules") reflect a similar requirement:

Whenever a Stream Alteration activity is known or suspected to increase or decrease the established Base Flood Elevation in excess of 0.3 vertical feet (or a more stringent standard adopted by the local government authority), a Letter of Map Revision showing

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such changes shall be obtained in order to accurately reflect the proposed changes on FEMA's regulatory floodplain map for the stream reach. The local community is responsible for ensuring that this process is pursued.

CWCB Rule 12(J).

We understand Boulder must apply for and receive a Letter of Map Revision ("LOMR") from FEMA in before it may engage in stream alteration activities. *See* Technical Guidance Document: CWCB Rules, Sept. 12, 2011, p. 9. The intent of such a requirement is "to create a compromise for mapping changes for activities deemed to create a significant change." *Id.* Has Boulder complied with this requirement? If so, what is the timeline for FEMA to publish a LOMR to reflect revised flood hazard risks?

We understand that the CWCB designated and approved certain floodplains and floodways in Boulder County during its May 17, 2017 board meeting. However, it is unclear whether Boulder notified the CWCB, or FEMA, of the effect that the stream alteration and construction activities had on the floodway along Lower Boulder Creek. CWCB's Rules recognize the need to consider changes in morphology as well as new information:

[w]hen changes are made to the characteristics of a floodplain¹ that result in a revision of a community's Flood Insurance Rate Maps

¹ This Rule also applies to floodways. *See* CWCB Floodplain Rules and Regulations: Statement of Basis Purpose, Nov. 17, 2010, p. 3, § 15 ("The Rules provide that designation and approval of floodways shall be considered, as requested by the local governing entity, as part of the designation and approval of corresponding regulatory floodplains.").

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or Flood Hazard Boundary Maps . . . the Board will designate and approve changes to the regulatory floodplain caused by development, new or better technical information, or other sources.

CWCB Rule 14 (emphasis added). We cannot account for the methodology or quality of data that Boulder or the CWCB used relative to the stream restoration and construction activities' effect on the regulatory floodplain or floodway when it developed its proposed changes. "Any stream alteration activity proposed by a project proponent must be evaluated for its impact on the regulatory floodplain" CWCB Rule 12(E). CWCB should carefully consider whether the data and methodology reflects such stream alteration and construction activities, and whether they may influence the flood hazard risk along Lower Boulder Creek, before it adopts further changes to the regulatory floodway.

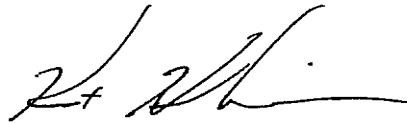
In short, stream alteration work may have reduced the flood hazard risk along Lower Boulder Creek such that new modeling is required. Impacts to property values and hazard insurance rates may be mitigated with this new information. Further, it is irregular and unjustified to seek CWCB approval of the proposed changes prior to FEMA review and approval.

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We therefore urge CWCB to delay any designation or approval of changes to regulatory floodways along Lower Boulder Creek at this time. If you have any questions or need anything further, please do not hesitate to contact us. Thank you.

Sincerely,

Holsinger Law, LLC

A handwritten signature in black ink, appearing to read 'KH', with a long horizontal flourish extending to the right.

Kent Holsinger