# FACT SHEET/STUDY MEMO

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| *Project Name:* | Colorado Hazard Mapping Program – Phase I | | |
| *Regarding:* | Coordination of Project Scope | *Date:* | August 13, 2015 |
| *Community* | Gilpin County | | |
| *Community Contact(s)* | Tony Petersen, Community Development Director: tpetersen@co.gilpin.co.us, 303-582-5831 x1 | | |
| *Project Contacts:* | Thuy Patton, CWCB Floodplain Mapping Coordinator: thuy.patton@state.co.us, 303-866-3441 x3230<br>Remmet deGroot, AECOM Program Manager: remmet.degroot@aecom.com, 303-796-4633 | | |

This memo documents the Colorado Water Conservation Board (CWCB) is coordinating with the appropriate community contacts regarding the scope and methodology of the Colorado Hazard Mapping Program (Project). The Project will take multiple years to complete, so it is important to have a record of this coordination. This memo serves to show the communities have reviewed and agree with the study methodology by signing at the bottom, and is for documentation purposes only. A summary of the Project is described below.

**Project Objective**

The Project involves conducting new flood hazard analyses and special flood hazard area delineations for streams particularly affected by the September 2013 flood event in the St. Vrain and Big Thompson HUC-8 watersheds (IDs 10190005 and 10190006, respectively). The resulting products and deliverables are expected to form the basis for a subsequent regulatory update for all studied streams under the Federal Emergency Management Agency's (FEMA's) Risk Mapping, Assessment, and Planning (MAP) Program. This regulatory update is not scoped or funded at this time. Throughout this process, CWCB and their consultant, AECOM, plan to coordinate with Federal, State, and local government entities as well as other relevant stakeholders to collaborate on project efforts, increase flood awareness, and assist in identifying risk mitigation actions.

**General Project Approach**

The following methodology will be applied to studying the selected streams in the St. Vrain and Big Thompson watersheds, except where deviations are specifically noted in the community-specific section below. All studies will be conducted using FEMA's applicable Guidelines and Standards for Flood Hazard Mapping. Project activities, including field surveys, will commence in the summer of 2015, except for reaches that will be studied starting in the fall of 2016 due to ongoing construction and recovery efforts.

The project tasks vary based on the study level of each stream. The scoped streams and their study levels are shown on the enclosed Scoping Map. Enhanced Level studies include survey and field reconnaissance and will eventually result in special flood hazard area delineations with plotted base flood elevations and regulatory floodways. Base Level studies do not incorporate field reconnaissance or survey data, rely exclusively on topographic data for terrain information, and will eventually result in model-backed special flood hazard areas without plotted base flood elevations. The Project tasks generally include the following sequence:

- Field Survey and Reconnaissance – Task will include the following for enhanced reaches (base level studied reaches are not surveyed):
  - Documenting the condition and types of hydraulic structures, such as bridges and culverts, and estimating associated parameters to include Manning coefficients
  - Surveying structure dimensions and adjacent cross sections
  - Surveying the channel and special flood hazard areas along cross sections spaced approximately 2,000 to 3,000 feet apart in the plains and mountains, respectively, where structure spacing allows
- Topographic Data – Task will include generating terrain models using topographic data from:
  - USACE 2014 LiDAR where available, collected in October 2014
  - USGS 2013 LiDAR elsewhere, collected from October 2013 through January 2014
- Hydrology – Task will include:
  - Using CDOT post flood hydrologic analyses where available and modifying it to include the "1% plus" and 4% flow rates per FEMA specifications
  - Calculating new peak flood flows for the 10%, 4%, 2%, 1%, "1% plus" and 0.2% annual chance events for streams not included in the CDOT post-flood hydrology analyses

- Hydraulics – Task will include performing 1-dimensional, steady-state HEC-RAS hydraulic analyses for all identified streams.
- Flood Hazard Mapping – Task will include producing special flood hazard area delineations for each level of study. While this phase of the project does not include a regulatory update, the work will tie into FEMA's National Flood Hazard Layer (NFHL) as appropriate and the analysis will be in accordance with FEMA's specifications and quality procedures. The following special flood hazard areas are mapped based on study level:
  - Enhanced Level – 1% and 0.2% annual chance flood hazard areas and regulatory floodway boundaries calculated with a ½ foot rise with profiles and floodway data tables
  - Base Level – 1%-annual-chance flood hazard areas
- Outreach – Due to the large area covered, project duration, and numerous stakeholders involved, routine communication is critical to this project. CWCB announced the project scope and objective to community stakeholders by email on May 28, 2015 and held a project kickoff meeting at CDOT's facility in Loveland on July 9, 2015. Community and county-specific discussions have been taking place. If additional or alternate contacts should be included in future discussions, please notify the project contacts listed above.

  Quarterly progress meetings will be held in Loveland starting in October, project information will be disseminated via newsletters and the project website (www.coloradohazardmapping.com), and flood risk review meetings will occur as necessary when results have been generated. Outreach is directed toward community officials, so they can disseminate appropriate information to the general public as necessary. Accompanying this memo is a brief flyer describing the scope and intent of this Project that can be shared with the public.

**Community Specific Studied Streams**

Streams were initially selected for study based on areas particularly affected by 2013 flood events. AECOM confirmed the scoped work for streams within Gilpin County by phone and email on July 14, 2015. Gilpin County had no comments or revisions to the planned scope or methodology. The table below summarizes the streams scoped for study within Gilpin County.

| Stream Name and Reach ID | Reach Description | Length (mi) | Level of Study | Topography Source | Hydrology Source* | Anticipated Start |
|---|---|---|---|---|---|---|
| South Boulder Creek (SV-5) | From 0.5 miles west of UDFCD boundary upstream 18.3 miles | 18.3 | Base Level | 2013 USGS LiDAR | New* | Summer 2015 |

**Denotes that stream segments may assume elevated flows in order to be consistent with assumed future conditions hydrology in downstream reaches crossing the Urban Drainage and Flood Control District (UDFCD) boundary. During the July 9, 2015 kickoff meeting, UDFCD requested that future conditions hydrology be considered for segments crossing their district.*

**Request for Concurrence**

Should you have any questions or comments regarding the stated scope of work, please contact Thuy Patton, CWCB Floodplain Mapping Coordinator (thuy.patton@state.co.us or 303-866-3441 x3230), or Remmet deGroot, AECOM Program Manager (remmet.degroot@aecom.com or 303-796-4633). Otherwise please indicate your concurrence with the above approach and project understanding by returning a scanned signed copy of this Fact Sheet/Study Memo to Ms. Patton or Mr. deGroot (only one community representative needs to sign). We request that you contact us or provide concurrence within 10 business days. We appreciate your timely response and look forward to working with you on this Project.

Tony Petersen — Printed Name
Com. Dev. Dir — Title/Position
Gilpin Co. — Agency

Signature

8/27/15 — Date