



**MEETING MINUTES**  
**Cherry Creek Stabilization Plan**  
**Thursday July 8, 2010, 9:00am – 10:15 am at UDFCD**

**Purpose:** Review Drop Structure Alternatives and Bank Protection. Prepare for Stakeholder meeting July 29.

**Exhibits**

- a. Alternative 1 – Large Drops Holly to Iliff
- b. Alternative 2 – Small Drops South Platte River to Cherry Creek Reservoir
- c. Drop 25 & 26 - Havana
- d. Draft Floodplain Map
- e. Bank Stabilization Methods and Costs (14 page packet)

**Attendees:**

Dave Bennetts	UDFCD	303-455-6277	dbennetts@udfcd.org
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Stacey Thompson	Arapahoe County	720-874-6500	sthompson@co.arapahoe.co.us
Robert Krehbiel	Matrix Design Group	303-572-0200	robertk@matrixdesigngroup.com
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Review draft PowerPoint for Stakeholder meeting. Suggestion to keep to 30 minutes and not get too technical.

**1. Drops 4 & 10 Rehabilitation**

- a. Low Priority
- b. Existing drops are vertical with fish ladders
- c. Large Drops
  - i. Likely rehabilitate by buttressing with sloping grouted boulders
- d. Small Drops
  - i. Alternative to Drops 4 and 10 shown consisting of 6 total drops.

**2. Drop 11 – Downstream of Holly Street**

- a. Low Priority
- b. Area of aggradation
- c. Some lateral instability
- d. Thick vegetation is stabilizing the channel
- e. Large Drops
  - i. May be possible to move this structure downstream 400' +/- providing additional raised invert reach.
- f. Small Drops
  - i. Alternative consisting of two smaller drops shown.

**3. Drops 14-17 (Alternatives)**

- a. Large Drops
  - i. 1991 master plan had 4 – 8’ drops
  - ii. Propose 6 – 5’ drops
  - iii. Need to investigate storm outfalls
- b. Small Drops
  - i. 14 new drops total
  - ii. Other combinations of drop location and crest elevation are possible.
  - iii. May be same cost as large drops when considering bank stabilization
  - iv. To be effective, push drop structure locations downstream as far as possible without adversely impacting floodplain

**4. Drop 25**

- a. Downstream of Havana Bridge
- b. Large Drops - Likely 3 ½ feet in height – Top at elevation 5471, Toe at elevation 5468.
- c. Small Drops – Divide into two structures. Channel stability and potential for flanking may be a concern. Location at bridge minimizes this concern.
- d. Survey shows existing invert at 66.86 feet – to be confirmed
- e. Already considered in planning for new bridge
- f. New bridge has 3-4 feet of freeboard with Drop 25
- g. Concern that a new drop would increase the frequency of trail inundation

**5. Drop 26**

- a. Scour occurring downstream of Drop 27
- b. Place new drop upstream of Pedestrian Bridge
- c. Likely 2 feet in height
- d. Survey shows existing invert at 66.86 feet – to be confirmed

**6. Bank Stabilization**

- a. Divided channel into 4 reaches
- b. Evaluating shear stress up the bank for 300 cfs, 1500 cfs and 5000 cfs
- c. Plantings with withstand shear stress post construction
- d. Integrate step boulders – use one row of boulders
- e. Evaluating the following techniques:
  - i. Prevegetated Biolog
  - ii. Prevegetated Coir Mat
  - iii. Deep Rooted Willow

**7. Construction Costs: Bank Stabilization with Large vs. Small Drop Structures**

- a. Costs for drops of various heights were presented which take into account different rock sizing, cutoff requirements and stilling basin lengths.
- b. Costs for bank protection for banks of varying heights were presented. Costs are based on hydraulic modeling of a typical channel reach with varying degrees of incision. Shear stress values were computed starting at toe and extending up the bank and used to establish the required extent of protection.
- c. Preliminary cost estimates for two alternatives (Large Drops and Small Drops) were presented. Costs consist of the cost of drops + cost of bank protection.
- d. Excluding Reach 1 (walled downtown reach) cost for two alternatives is approximately the same at \$19 million.
- e. Major assumption in cost for Small Drops alternative is percent of Cherry Creek channel length that will require bank protection. Preliminary costs assume 50%.

**8. Floodplain Study update – Draft**

- a. Downtown reach is showing a floodplain at or above regulatory BFE's
- b. Reach between Holly and Iliff is much lower than regulatory BFE's due to channel incising
- c. Added new survey bridge data upstream of Holly Street
- d. Work on floodplain model continuing

**9. Action Items**

- a. UDFCD to provide email addresses for some stakeholders
- b. Matrix to complete floodplain model
- c. Confirm storm outfall locations between Holly and Iliff
- d. Prepare PowerPoint of alternatives for Stakeholder Presentation
- e. Notify remaining stakeholders of meeting on July 29