

## MEETING MINUTES

**Project:** McKay Lake OSP  
**Client:** UDFCD and Broomfield  
**Meeting Description:** Alternatives Comment Review Meeting  
**Meeting Date:** September 18, 2018  
**Meeting Location:** City and County of Broomfield  
**Muller Project #:** 17-054.01  
**Notes Prepared By:** Audrey  
**Notes Issue Date:** September 20, 2018

### ATTENDEES:

Rebecca Baker City and County of Broomfield  
 Katie Allen City and County of Broomfield  
 Kathryn Bergh City and County of Broomfield  
 Brooke Seymour Urban Drainage and Flood Control District  
 Michelle Morgan Muller Engineering Company  
 Ale Ferrufino Muller Engineering Company  
 Audrey Rogers Muller Engineering Company  
 Andrew Hawthorne City of Westminster

### ACTION ITEMS

<b>MULLER ENGINEERING</b>	
1.	Field measurements on existing irrigation culvert in Adams County
2.	Add street classifications to Table 4-1 and then send out to the team for design storm decisions.
3.	Approximate cost for combining irrigation and stormwater flows in one channel. Attached to final version of meeting minutes.
4.	Prepare roll plots for Public Meeting and update website.
<b>UDFCD</b>	
1.	Doodle poll for date of Public Meeting. Send out postcards for the meeting



<b>BROOMFIELD</b>	
1.	Find a location for the Public Meeting and notify

  

<b>WESTMINSTER</b>	
1.	Follow up with internal staff on preference for routing the flows to McKay Lake

## **DISCUSSION**

*The following is our understanding of the subject matter covered in this meeting. If this differs with your understanding, please notify us.*

- The Northwest Tributary alternatives were discussed. The team agreed that it made the most sense to combine the roadway flows from the adjacent 144<sup>th</sup>/Dillon Road project.
- Everybody also agreed it would be better to release the flows into Westminster’s property instead of paying for additional pipe in 144<sup>th</sup>.
- Three options for this area were discussed due to time constraints associated with the Dillon Rd project:
  1. Have the Dillon Road project build the conveyance channel – this agreement may take over 6 months to get which is too late for project. May be able to do a force account and add in later.
  2. UDFCD manages design and construction of the channel with an IGA between UDFCD, Broomfield and Westminster. In the interim a license agreement with Westminster Open Space could be executed for a temporary channel
  3. Pipe within the road to the existing CBC
- Since all 3 options are feasible, Andrew is going to follow up with his internal staff and determine Westminster’s preference. This will take a couple weeks because of the upcoming CASFM conference.
- Audrey provided a copy of the comment log and explained that items which have a B in the disposition column are items to be discussed at the meeting.
- At this time, Muller will note in the alternative evaluation text that a FRICO review will need to occur prior to design however it was not completed at the Master Planning level.
- Muller will add an existing land use map to the interactive map and include a “For Reference” on the page somewhere so that the basins which have a different impervious can be reviewed.
- Muller will get some field measurements of the irrigation structure in Adams County limits that we do not have a size for.
- Muller will add street classifications to Table 4-1 and then send out to the team. With this information, the team can decide what design storm each pipe should be sized for.
- The existing pipe under the access drive for the Discovery Church appears to be a 10-year pipe based on the 2001 OSP hydrology.
- Add a sub-option within the Upper Reach 1 West to include portions of Alternative A and Alternative B. Similarly, add some text that we could consider piping the FRICO flows in this area.

- The area taking flows from High Prairie Way (Upper Reach 1 East) is within an equestrian easement so it will need to be piped to allow for access.
- Add some additional text to the discussion on the double box under 144<sup>th</sup>. Mention that the pipes are skewed which may contribute to some of the area difference.
- Confirm why Clay Street channel is sized for a 2-year storm and Zuni is sized for a 100-year storm.
- The alternative of combining all the flows into one channel was discussed. We know that the ditch company does not want that however an idea of the cost needed to separate the flows is helpful. Please see attachments for this cost estimate.
- Add additional discussion to the report about public safety and transportation impacts.
- The City of Broomfield would prefer to have the 11x17 maps of the options. Therefore, we will leave them but Muller will make it clearer what is included within each “reach”
- The team would like to hold a Public Meeting in mid-October from 6-7 pm. Broomfield will find a location. UDFCD will send out a doodle poll to determine the best date and they will also send out the postcard notifications.
- Muller will prepare a roll plot showing the alternatives and a roll plot with the Engineer’s recommended plan.
- Muller needs to update the website to show the Alternatives report and schedule, as well as the date for the public meeting.

**ATTACHMENTS**

**Lower Reach 1 – Storm and Irrigation Combined Alternative**

Per the request of UDFCD, Muller developed a rough cost estimate for a variation of the alternatives presented in the Alternatives Analysis for Lower Reach 1. The following cost estimate represents a condition where the existing channel/culverts for Lower Reach 1 are improved to convey the 100 year storm with the dedicated irrigation flows combined. This estimate was developed by starting with Alternative C and taking out the proposed irrigation pipe in Zuni Street. The proposed Ditch and Culvert sizes that were determined for the storm flows were verified with an additional 25 cfs of irrigation flow. All ditch and culverts previously sized to convey the storm flows were found to be adequate except for the culvert at West 149<sup>th</sup> Avenue, which increased by 1 nominal size. It should be noted that this rough cost estimate only includes 1 foot of freeboard in the proposed ditches, rather than the 2 feet recommended by FRICO.

<b>Summary for Tabulation</b>	
Capital Improvement Costs	\$915,945.00
ROW/Easements	\$240,043.00
Engineering	\$137,392.00
Legal/Administrative	\$45,797.00
Contract Admin/Construction Management	\$91,595.00
Contingency	\$228,986.00
<b>Total Capital Improvement Costs</b>	<b>\$1,659,758.00</b>
Total Annual Operation and Maintenance Cost	\$8,188.00
Total Operation and Maintenance Costs Over 50 Years	\$409,400.00