

MEETING
MEMORANDUM

MULLER ENGINEERING COMPANY, INC.

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Project

Newlin Gulch MDP and FHAD

Meeting Date

June 1, 2015

Sponsors

UDFCD / Douglas County / Town of Parker

Issue Date

June 4, 2015

Meeting Location

Town of Parker

Muller Project No.

12-050.01

Attendees

Shea Thomas, UDFCD
Brad Robenstein, Douglas County
Jacob James, Town of Parker
Jim Swanson, CCBWQA
Derek Johns, Muller Engineering Company
Melanie Chenard, Muller Engineering Company
Sam Rogers, Muller Engineering Company

Minutes Prepared By

Sam Rogers/Melanie Chenard

Purpose

Newlin Gulch MDP and FHAD – Progress Meeting #6

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

ACTION ITEM SUMMARY:

Muller Action Items:

1. Inquire with Scott Barnett about encasement requirements for sanitary lines under Recreation Drive.
2. Send Jacob a rating curve of flow vs. depth at Recreation Drive.

UDFCD Action Items:

1. Inquire about unit cost for weed control.
2. Inquire about unit costs for land acquisition from past master plans.
3. Forward public comment responses to Muller.

Town of Parker/Douglas County Action Items:

1. Send Muller as-built bridge drawings for Jordan Road and Mainstreet over Newlin Gulch.

DISCUSSION:

1. GENERAL

Melanie Chenard gave an update on the FHAD Report and Alternatives Analysis Report progress. Muller has received comments on the Preliminary FHAD Submittal from Terri Fead at UDFCD and comments on the Draft Alternatives Report from the project sponsors. Muller will address these comments as well as any additional discussions that come up in this meeting and submit both the Draft FHAD Report and the Final Alternatives Analysis Report the week of June 8th, 2015.

2. FHAD

- a. Preliminary analysis for the Flood Hazard Area Delineation (FHAD) study was completed and submitted to UDFCD for review in early April. Terri Fead replied with comments on the hydraulic model, floodplain workmaps, water surface profiles, floodplain data, and agreements tables on May 12th. Muller will address these comments and include the revised documents in a draft submittal of the FHAD Report on June 9th, 2015.
- b. Bridge data for the Jordan Road, Lincoln Avenue, and Mainstreet crossings over Newlin Gulch was obtained from recent LOMR models. It was noted that the deck thicknesses for these bridges were inaccurate in the LOMR models, ranging from only 1' to 2' thick. While the inaccuracies do not seem to impact the hydraulics due to the large size of the bridges, Muller would like to reflect them accurately in the HEC-RAS model and on the FHAD profile drawing. As-built drawings for the Lincoln Avenue bridge are available on the UDFCD server; additional information is needed for Jordan Road and Mainstreet. Jacob and Brad will provide Muller with as-built drawings
- c. Melanie reviewed the draft floodway delineations with the project team. At Challenger Park, a right bank floodway is defined from Lincoln to downstream of Recreation Drive. At the upstream end of the study area, floodways are defined upstream of Hess Road and in areas downstream of Hess Road where there are large backwater areas. The team agreed that the floodways look appropriate.

3. ALTERNATIVES ANALYSIS

Muller has submitted a Draft Alternatives Analysis Report and received comments back from the project sponsors. Items discussed in the meeting are outlined below:

- a. Recreation Drive: Melanie gave an overview of the three alternatives proposed for the crossing at Recreation Drive. All three alternatives include adding a four-celled box culvert with 10-year capacity near the low point of Recreation Drive, with higher storm events overtopping the crossing. Alternative A matches the existing channel invert and minimizes road reconstruction, such that high flows will continue to spill onto Recreation Drive East and around the right bank of the grouted boulder drop structure. Alternative B also matches the existing channel invert but includes additional road reconstruction to raise the high point in Recreation Drive, eliminating the spill to Recreation Drive East. The right side of the grouted boulder drop would be raised to contain 100-year flows within the drop. Alternative C lowers the invert of the culverts at Recreation Drive, which requires lowering the crest of the grouted boulder drop as well as the 20" high pressure gas line.

- Jacob recommended in a review comment that a sheet pile cutoff wall and some riprap bank protection be added to Alternative A to protect the drop structure and utilities from erosion. Muller agrees with this comment and has updated the Alternative A figure and cost estimate accordingly.
 - Alternative B features a small berm to the east of the parking lot bathrooms that would help contain 100-year flows from entering Recreation Drive East. Shea Thomas had provided a review comment about the creation of a levee condition. Melanie clarified that the intent of the berm is to improve the hydraulics, but that the mapped floodplain for this alternative would need to ignore the effects of the berm.
 - Shea had a comment for Muller to investigate the hydraulic impacts of skewing the proposed culvert at Recreation Drive. Melanie mentioned that skewing the bridge had little to no effect on the hydraulics, but that it will be investigated in more detail during conceptual design. Jacob requested that, during conceptual design, Muller attempt to lay out the improvements such that the adjacent trail could be replaced in the same alignment (though the grades may change) in order to minimize the impact on the adjacent property.
 - Shea had provided a review comment inquiring about the impacts of Alternatives A and B on the SVMD sanitary lines in Recreation Drive. Melanie mentioned that both lines are set fairly deep (about 6-8'), but will check with Scott Barnett of Mulhern MRE as to whether these lines would need to be encased.
 - Numerous comments were provided on the Alternative Evaluation Summary Matrix. Muller handed out copies of the updated matrix and asked for any other feedback on the weightings or rankings of the various items as the three alternatives are very closely rated. Shea noted that Muller's recommended plan doesn't necessarily need to match the results of the matrix, and that the sponsors are free to deviate from the recommended plan in their selected plan. Jacob commented that, from the Town's perspective, Alternative B does not provide a much more substantial incentive over Alternative A based on the \$400k cost difference, but that ultimately the Town would defer to the County's preference.
 - The team had previously discussed whether guardrails or handrails would be required at the crossing. Brad had indicated that the County wouldn't require guardrails due to the low design speed. They would likely want to have pedestrian rails, though these could potentially be excluded if the culvert extends sufficiently beyond the edge of the roadway / sidewalk. Jacob had expressed a preference to include railings in the MDP modeling, and leave the decision for final design. Therefore, Muller has assumed 54" railing that would act as fully blocked over the culvert. If desired by the team, this assumption can be re-considered during conceptual design.
 - Muller asked for more feedback about the flooding in the parking lot. Alternatives A and B provide 2-year protection, and Alternative C provides 10-year protection. Brad thought these levels of protection were adequate and that there is no need for Muller to look at raising the parking lot. In order to address the issue of minor flooding at the restrooms that is introduced with Alternatives A and B, the project team agreed that installing a small floodwall around the structure would suffice.
- b. Channel Alternatives: Melanie presented Jacob's comments on the use of existing and proposed grade structures in Reach 5, Town of Parker's jurisdiction. In general, Jacob would like to retrofit existing check structures into drop structures and increase proposed drop heights from 2' up to 2.5' or 3' in order to decrease the amount of structures needed.
- c. Maintenance:
- Jacob and Brad confirmed that concrete maintenance trails should be included for all areas currently without maintenance access.

- In the operation and maintenance section of the Master Planning cost spreadsheet, Shea recommended that “mowing” be changed to “weed control”, with the cost and/or frequency reduced. Shea will inquire with Barbara Chongtoua on a more specific cost for weed control.
- d. Land Acquisition: No land acquisition costs were included in the draft Alternative Analysis. Muller assumed that reaches yet to develop would have dedicated open space/drainageway tracts, as per the currently developed reaches. The only acquisition required by the plan is at Recreation Drive. This is within the Town of Parker; per Jacob, land acquisition costs at Recreation Drive should be included. Jacob will look into whether there are existing trail and/or drainageway easements; if so, perhaps only a temporary construction easement would be needed. Shea will investigate land acquisition costs from prior master plans and forward them on to Muller.
- e. Public Comments/Responses: Shea will forward Muller her responses to public comments to include in Appendix A of the report.

4. BALDWIN GULCH

Derek explained that the original contract included some analysis of stabilization improvements needed on Baldwin Gulch. Though the scope for the Baldwin piece has evolved, Derek thought there is still a need to look at stabilization improvements between the dam and Pine Drive. The team agreed; Muller will prepare a memo with recommended improvements that UDFCD will attach to the original OSP document, which is still in effect for Baldwin Gulch.

5. PROJECT SCHEDULE

An updated project schedule was handed out. The timeline for the Conceptual Design Report has been shortened to make up for additional time spent on the Alternative Analysis. As was previously stated, target milestone dates are June 9th for the Draft FHAD Report submittal and June 10th for the Final Alternative Analysis Report.

6. OTHER ITEMS AND NEXT MEETING

- a. Jacob requested that Muller provide a rating curve of the existing conditions flow vs. depth at Recreation Drive. The Town plans to relocate a flow gage from Jordan Road to the downstream side of Recreation Drive to improve the warning system at the crossing.
- b. The next project meeting will be held following submittal and sponsor review of the draft Conceptual Design Report.

END OF MINUTES