
Grange Hall Creek MDP and FHAD Hydrology Progress Meeting II Minutes

Date: May 15, 2015, 9:00 AM
Location: UDFCD Building
Distributions: Peak Flows Table, GHC Peak Flow Profile, Detention Basin Characteristics, Subcatchment Map, Detention Basin Map

Attendees:

NAME	ORGANIZATION	E-MAIL
Shea Thomas	UDFCD	stthomas@udfcd.org
David Mallory	UDFCD	dmallory@udfcd.org
Terri Fead	UDFCD	tfead@udfcd.org
Brik Zivkovich	UDFCD	bzivkovich@udfcd.org
James W. Kaiser	City of Thornton	jim.kaiser@cityofthornton.net
Pam Acre	City of Northglenn	pacre@northglenn.org
Anna Sparks	Adams County	asparks@adcogov.org
David Delagarza	RESPEC	david.delagarza@respec.com
Mike Bannister	RESPEC	mike.bannister@respec.com

I. Purpose

The purpose of this meeting was to discuss and verify the preliminary SWMM routing and detention facilities with the sponsors. Peak flows from SWMM, detention characteristics, and calibration of the hydrologic models were discussed.

II. Peak Flows

David Delagarza opened the meeting by presenting the status of the hydrologic models and a summary of preliminary results. Peak flows at notable crossings were discussed and compared to the 1997 MDP and effective FIS flows. Shea Thomas stated at this point in the meeting that the model should be calibrated to the effective FIS flows (this decision was changed later in the meeting, see below).

III. Hydrologic Model Calibration

Ms. Thomas described the typically process for calibrating hydrologic models for this type of study. The calibration process includes:

1. Importing the imperviousness and detention from the previous model used as the basis for calibration.
2. Adjusting C_p in the current model to match peak flows from the previous model within acceptable limits.
3. Modify the current model for any physical changes that have occurred since the previous model was created. This includes increases in imperviousness and new detention facilities that were not included in the previous model.

The resulting model from step 3 is the new calibrated baseline conditions model. Ms. Thomas stated that RESPEC's contract will be amended to offset costs due to calibration. A secondary calibration process was also described:

1. Create a hydrologic model (model A) using 2-3 square mile subcatchments and no detention.
2. Create a hydrologic model (model B) using the current subcatchments (100 acre average size) and no detention.
3. Adjust C_p in model B such that peak flows from model B match model A.

At this point in the meeting Terri Fead left to determine the model that the effective FIS flows were based upon. Ms. Thomas stated that the UDFCD had new more accurate C_p and C_t overrides and would provide them to RESPEC in a spreadsheet.

Mr. Delagarza asked the sponsors if RESPEC should provide peak flows for any other locations in the study area. Jim Kaiser requested peak flows on the North Tributary arriving at the UPRR crossing.

At this point Ms. Fead and David Mallory entered the room. Mr. Mallory stated that the majority of the effective FIS flows for the study area were based on a 1976 study by Wright-McLaughlin Engineers. A LOMR for the section of the North Tributary between the UPRR line and the Northglenn/Thornton boundary was based on a more recent study. All other LOMRs in the study area were based on hydrology from the 1976 study.

Reversing a previous decision, it was agreed the current study would not be calibrated to the FIS flows due to the previous study's age. Ms. Thomas stated that RESPEC should use the second calibration process described above (using 2-3 square mile subcatchments) and updated C_p and C_t overrides to calibrate the hydrologic models.

Ms. Thomas stated that during the FHAD, RESPEC should only map flood hazard areas that have previously been mapped.

IV. Detention

Mr. Delagarza stated that the current SWMM model is using detention basin characteristics (stage-storage/stage-discharge) from the 1997 MDP and asked if RESPEC should use more accurate information for the storage units. Ms. Thomas stated that the UDFCD will survey all

outlet structures for detention basins that as-built plans are not available for. Ms. Thomas also stated that the 1-foot contours created for the study would be accurate for creating stage-storage curves.

Mr. Delagarza asked if operations and maintenance statements for basins modeled in the study should be included in the hydrology/FHAD/MDP reports. Ms. Thomas stated that they should be. Mr. Delagarza asked for the sponsors to provide operations and maintenance statements for any formalized detention basins included in the hydrology.

Potential basins to exclude from the baseline hydrology were discussed. It was decided to exclude basin 356 (the entrance pond at Fox Run) and to combine subcatchments 301 and 302. It was also decided to exclude detention basins 305, 361, and 902. Further, it was decided that any basins that have no impact on peak flows may be left out.

V. Schedule

It was decided that another meeting would not be required before the submittal of the draft hydrology report and that the next meeting would focus on comments on the draft hydrology report. Any changes to the baseline hydrology would be conveyed to the sponsors via email. It was decided that the draft baseline hydrology report would tentatively be submitted in one month.

VI. Action Items

- RESPEC will create a list of detention basins that need to be surveyed.
- The UDFCD will provide RESPEC with updated C_p and C_t overrides.
- The sponsors will provide RESPEC with operations and maintenance statements for the formalized detention basins in the baseline hydrology.

These minutes are true and accurate to the best of my knowledge based on notes and recollection. Should any attending party have additions or corrections to these minutes, please forward them to David Delagarza of RESPEC Consulting within one week of the date of receipt. The absence of a response will be considered concurrence to the previous information and these minutes will be considered matter of fact.