

SBC Flood Mitigation Study - CU Meeting 6-24-10

ATTENDEES: Kurt Bauer/City of Boulder
Bob Harberg/ City of Boulder
Jeff Lipton/ University of CO
Mark Glidden/CH2M HILL
Alan Turner/CH2M HILL

FROM: CH2M HILL

DATE: June 24, 2010

Alan provided an overview of the current proposed pond configuration and the way the system works. (Proposed CU Detention Figure attached) The pond proposed in 520 acre feet (AF), smaller than the probable size discussed at the previous meeting. The pond volume was developed by using the natural topography and excavating to minimize the footprint. The excess excavated material is proposed as fill to elevate key areas of the CU property.

Alan also described the function of the lower pond. This pond controls the Viele channel and isn't really an element in the mainstem flooding from South Boulder Creek. The pond controls the tributary area draining along the Viele Channel and prevents that from surcharging the system and overflowing across US 36. However, the size is quickly overwhelmed if uncontrolled flow from the mainstem is allowed to reach the pond. The team concluded the lower pond needs to be isolated from uncontrolled mainstem flows. However, the timing and volume are such that the new storage pond can be drained into the Viele channel and then under US 36. Using this outfall avoids the need to construct another crossing under the highway.

Both Jeff and Bob identified that the proposed configuration should explore the expansion of the storage area to include the Table Mesa Pond by wrapping the embankment around that site. Alan would look at this to determine what the embankment configuration might look like.

Bob noted that the schedule for the project was to have the alternative evaluation done by the end of the year and then work with the City's Boards and Council to finalize the plan. He noted that the costs now are in the \$30-40M range and it wasn't likely the City could come up with that kind of money in the short term. The team is looking at alternative funding sources such as the state through a Pre- Disaster Mitigation Grant or from the feds by working with the Corps of Engineers.

One key element is the cost of the land. The team is looking at costs ranging from \$36k/acre to \$19/SF depending on land use type. The selection of the cost has a profound effect on the viability of an alternative. Jeff suggested we look at recent open space land purchases to find a cost that could serve as a precedent.

Jeff asked if we have been coordinating with CDOT. Bob indicated that discussions have been held. During those discussions, they indicated that improvements to US 36 are very low on the list of priorities and that it may be 20 or 30 years before anything is done to the highway. There is some work ongoing related to a pedestrian overpass and other improvements outside the highway. Jeff mentioned that he was aware of some

improvements to the configuration of the Table Mesa interchange. His contact is Mike Sweeney.

Jeff indicated he needed the following information before he could take the alternatives to his bosses:

- Estimate the acreage that would be undevelopable including the area within the Table Mesa pond.
- Compare the current configuration with the original plan and determine the impact on the developable footprint.
- Use the cost of recent open space acquisitions for agricultural lands as the basis for land costs that were designated as open or flood storage. Use developed costs for those areas designated for development.
- An updated version of the plan showing the impacts to the CU plan

Jeff noted that it would be desirable to be able to co-locate their detention storage within the bigger pond area. This probably would not material impact pond sizing and could be incorporated during final analysis and design. He also indicated that if grading was going to be done, it would be good if it could be done in such a way as to accommodate the future construction of recreation fields. He provided a plan with the desired recreation field layout. The team agreed to incorporate this in future modifications.

The City and CU need to figure out the terms of any development agreement or utility concessions. CU is ready to begin these negotiations. It isn't unreasonable to assume that process would lead to other issues.

The issue of groundwater levels was raised. Not only can that impact the potential effectiveness of the ponds, but exposed groundwater can have water rights implications. The team assured him that we have tried to avoid any impacts to extent data was available.

The site is still under a reclamation plan and any modifications would need the approval of the Mined Land Reclamation Board.

Jeff asked to look at the lower pond configuration again. Alan explained that we did look at the possibility of storage in the lower pond and simulated the hydraulics. The result was that a workable pond had to be about 30' deep and might have some groundwater issues.

The team did consider a storage options above the CU property. This project includes a berm near Marshall Road that would control downstream flooding. This pond is also being revised based on feedback from Open Space. It would continue to result in some inundation of the CU property but no physical improvements would be required.

When developing costs for the CU pond, it is only necessary to consider rough grading costs in addition to land and pond infrastructure. CU would not expect any of the recreation fields to be built using these project funds.