

Elk Grove Creek Activity Update

In March 2008, the City of Elk Grove and the Laguna Creek Watershed Council partnered together to host a workshop to address several issues regarding Elk Grove Creek. At the workshop, we discussed several topics including maintenance, beaver issues, habitat, water quality, recreational opportunities but the overarching emphasis was to brainstorm ideas about fixing the flooding issues. The City has gone through several iterations so far to come up with an engineered solution to address the flooding issue on Elk Grove Creek including the following:

At the workshop, we identified possible areas for off-loading volume. Markofer Elementary School, the horse ranch and the small park adjacent to the school were figured to be areas that could support a multi-use detention basin facility. West Yost ran the numbers to calculate the 100-yr flood elevation drop but even with the biggest detention basin dimensions that would be able to fit, the best we could do was to shave a tenth off the existing 100-yr flow elevation. The City decided to not pursue this option any further.

On Clarence Korhonen's suggestion, David Ford performed the second iteration to lower the flood flows [in Elk Grove Creek](#). The idea was to look at reregulating the outfall from the three detention basins [east of Waterman Rd](#) to meter out the discharge flow. The discharge [from the three basins](#) converge into an 84-inch line that outfalls into the only Elk Grove Creek tributary that confluences with the [main stem of Elk Grove Creek which is](#) at the Markofer school site. By maximizing the efficiency of the basins, we hoped to let the main stem of Elk Grove [Creek](#) drain before basin runoff could reach the main creek. We started by modeling [the basins](#) without [any contributing](#) flows from [the](#) subshed. We found that even by eliminating the flow completely, the drop in elevation was negligible, at best, and realistically there is no possible way to eliminate the flow. The problem stems from too many inlet points downstream, rendering any improvement at the basin discharges ineffective [for the 100-year flow condition](#).

In our third iteration, Clarence performed a precursory analysis by looking at the possibility of [benching the creek embankment with](#) a lower shelf built into the bank with the idea that [incorporating](#) a larger creek cross section [100-year flows could be attenuated thereby lowering](#) lowering the flood flow elevation. The lower shelf would still have to be constructed at the 10-yr level to act as a maintenance access road. Again, the flood flow is too immense given the lack of space surrounding the creek to produce any effective flood control.

Our latest attempt is to model larger openings [where](#) the creek crosses at Elk Grove-Florin [Road](#) and Elk Grove [Blvd](#). The HEC-RAS model produced for the storm drain master plan shows these two points back up water of [around](#) a foot before entering the crossings during high flood flows. Modeling results are to be completed before the next workshop.