March 29, 2011

Ventura County Watershed Protection District: Response to the questionnaire on data gaps and investigations (E-mail from jeff Pratt, received by Mary Selkirk on 3/28/11)

From a WPD perspective I think that the homework assignment can be divided into two major pursuits.

First, running 4b to ground - what is it going to take in the way of information, additional study, or "tweaking" to arrive at a fully dressed 4b that has "consensus" acceptance.

Second, fine sediment transport optimization - does it make sense to split disposal sites so as to reduce mechanical transport costs, does it make sense to completely rethink the project approach to handling the fines (e.g., "notching" - cofferdams - water harvesting changes -etc.) and/or any combination of the forgoing.

Answering the "running 4b to ground" question would seem to be the far easier of the two assignments. We have not heard from the regulatory folks (RWQCB, DFG, NOAA, USFW) in a detailed and formal way. It is suspected that they would like more WQ modeling from a chemical (fate and transport), mechanical (hydrograph -recession limb), and a biological perspective. If needed, this modeling or the resolution of this data gap would be of the highest priority for WPD.

Another refinement that it would seem the right time for is the refinement of costs associated with the 4b alternative. Priority should be given to moving it to the next level of refinement in cost estimating so that an analysis of possible cost saving 4b permutations is possible. By permutation I mean only those permutations that would still result in a "4b like" project, e.g., differing amounts of disposal upon the agreed upon sites - not the more problematic options/permutations that would result in phased natural transport of fines above the Robles Diversion. However, the information gathered/developed with this effort would be useful to all sorts of discussions.

"Fine sediment transport optimization" is a much more difficult matter in that the problem is self-referencing, i.e., to know the potential data gaps it is necessary to have an idea of the "optimized" option(s) but to determine the "optimized" option(s) more data may be necessary - we have a circular, self-referencing problem that necessarily requires an iterative approach to solve. The number of iterations required to explore an optimized option(s) might be many more than we have either the time or money to achieve.

One economical approach to tackling such a problem would be to parse the optimization process and ask and answer threshold questions before proceeding. For example, a built in assumption to the splitting the disposal sites - some at BRDA, some above the

dam, some elsewhere etc. - is that it will result in a significant cost savings. Determining the validity of this assumption would be a threshold question and therefore a priority data gap that would need to be closed before proceeding.

Another economical way to approach the optimization problem would be to identify those options that have obvious and significant cost savings (we can agree on the definition of significant) and to work backwards through a series of tradeoffs/modifications until you have a defined project with defined savings whose impacts (data gaps) can then be studied. An example of such an approach might be to identify notching as the preferred optimized project and then to work on tradeoffs/modifications that would further define the project (e.g., time between notches, depth of notches, upstream handling of fines, etc.). Using this defined project, the number of data gaps might be reduced (hopefully) to a workable number and their exploration might be accomplished in an acceptable time span.