Surfrider Foundation

Ventura County Chapter – Matilija Coalition

PO Box1028, Ventura, CA 93002

(805) 667-2222 **www.matilija-coalition.org**

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Douglas E. Chitwood, P.E., G.E.
Geotechnical Branch, Los Angeles District
US Army Corps of Engineers
915 Wilshire Blvd
Los Angeles, CA 90017

Dear Mr Chitwood,

Thank you for the opportunity to participate and comment on the **Matilija Dam and Sediment Removal value engineering report** (Matilija _ VE Study Report DRAFT 9-25-07.pdf.)

Please consider the following comments as the design process moves forward. The relevant VE measures are grouped together for the purposes of this discussion.

1. **Use geotubes in lieu of soil-cement**
7. **Bury vegetation in sediment storage sites in lieu of removal**

A combination and/or variation of these two measures should be considered in the design of the constructed stream channel to enhance the habitat restoration potential of the project.

The use of geotubes or other soft streambank stabilization may provide opportunity for enhanced ecosystem restoration benefits. Specifically, if streambank stabilization were combined with revegetation, enhanced riparian habitat restoration would be possible. However, there is concern that geotubes may suffer damage due to high stream flows having a negative impact. Also, removal of geotubes (or soil cement) will be costly and disruptive as the stream bed evolves in response to storm events.

Similarly, wholesale burial of large trees and other woody debris in the upland sediment storage areas may not be in the best interest of ecosystem restoration. This may disrupt the stability of the new landforms due to rainfall erosion from above as well as from streambank/channel erosion.

However, if considered in a slightly different context, measures (1) and (7) do present considerable cost saving opportunities. The most cost effective approach for streambank stabilization at the toe of the sediment storage sites would be a design that would provide the desired level of protection with minimal future maintenance. In this respect, a ***bioengineered design is feasible for the 10-year level of protection***. This would considerably enhance the ecosystem restoration benefits of the project while reducing future O&M costs.

For example, fisheries restoration practitioners commonly use large trees and root wads as well as large boulders to stabilize stream banks and create fish habitat. ***Engineered placement of large woody debris*** within or adjacent to the constructed channel may serve to stabilize the sediment storage sites and introduce habitat diversity (i.e. pools and shelter) for steelhead.

Similarly, stabilization of the sediment storage sites will require minimizing runoff and upland erosion. ***Mulching the smaller vegetation*** and applying to the upland areas of these sites will enhance revegetation and restoration. In this manner, both the large woody debris and smaller vegetation may be utilized on-site.

Therefore, it is recommended that the final design team includes stream and habitat restoration experts, and the construction contractor be familiar with these techniques. In this manner, cost savings may be optimized by using on-site materials while optimizing the habitat and ecosystem restoration potential of the project.

3. **Optimize hydraulic placement of all materials; remove delta materials first from the new 100' wide stream alignment. This provides for more lake water storage for future slurry removal of silts from behind the dam.**
8. **Recover water from slurry downstream and pump It back upstream in lieu of buying water**
10. **Mix in silts with sands for disposal upstream to facilitate revegetation of upstream disposal sites**

The combination of these three measures should be optimized to eliminate the need for importing water for the dam removal project. This may be achieved by establishing reservoir storage capacity as sediment is removed from the upstream areas. If timed to include one or more storm seasons, stormwater capture using the increased capacity combined with reuse could provide enough slurry capacity to complete the ***removal of fine sediments without resource intensive and costly importation of water from Lake Casitas***.

9. Overexcavate slurry disposal site and mix silt with reserved in-situ material to facilitate revegetation and post project uses

This measure resulted from discussions regarding the feasibility of revegetation on top of the fine sediment disposal sites. Fine silts and clays are relatively impervious, preventing adequate drainage for successful revegetation. Mixing the fines with in-situ sands may help with this issue.

However, the issue of slurry disposal will require further analysis and consideration. ***If there is now a preference to use the single disposal site previously eliminated from consideration during the feasibility phase, further CEQA/NEPA environmental review will be necessary***. This is due to a fundamental change from the several smaller temporary disposal sites identified in the Feasibility Report, to a single permanent site. This site would require careful design and restoration to ensure revegetation, prevent flooding from upland tributaries, and integrate with the Meiners Oaks levee design. This site also has significant impacts to recreation, since it is below the primary trailhead for the Ventura River/El Nido Preserve, one of the only highly utilized public access points within the entire watershed.

6. **Do not remove entire dam, leave part of the abutments**

   The relatively small cost savings from this measure ***do not warrant the negative implications of leaving part of the dam in place***. This was discussed during the feasibility phase, with consensus agreement that the entire dam should be removed. This relates to the future disposition and ownership of the dam site and the potential liability of any remaining decaying concrete. It is unlikely that Ventura County will permanently retain ownership of the land; any other entity is likely to be wary of the liability. Furthermore, it was previously agreed that the intent of the Ecosystem Restoration Project was to restore Matilija Canyon to a natural state, and leaving large portions of the dam abutments would run counter to this fundamental project objective.

The Matilija Dam Ecosystem Restoration Project is a complex and costly endeavor. There are many opportunities to optimize the engineering and design to reduce costs and maximize the ecosystem benefits. Integration of the project components and utilization of on-site materials will be critical to the success of the project.

I look forward to further discussions on these issues.

Sincerely,

A. Paul Jenkin
Coordinator, Matilija Coalition
Environmental Director, Surfrider Foundation - Ventura County Chapter
(805) 648-4005