Matilija Dam Removal, Sediment Transport, and Robles Diversion Mitigation Project
Technical Advisory Committee Meeting Notes

September 18, 2014 10:00 am to 3:00 pm

Saticoy Operations Yard
11251 Riverbank, Building B, Saticoy, CA

Participants

See Attachment 1: Sign-in Sheets

Initial Options Screening:

1. Initial Dam Removal Options Screening: Seth G. presented the screening analysis for the six initial options selected at the May DOG workshop. Key points include:
   - Primary screening criteria were construction duration, construction cost and downstream fine sediment impacts (focus on impacts to downstream diversions, with recognition of temporary impacts to biological resources)
   - Many of the initial options rely on a large sediment mobilizing storm to flush out accumulated sediment from the reservoir. Based on the historic data, it was estimated that a storm of this magnitude would occur on average every four years.
   - For fine sediment mobilization associated with IO-01, 02 and 03, the assessment conservatively estimates that significant increases in suspended sediment concentrations will occur over approximately 13.5 hrs during the large sediment mobilizing storm event. After this point, mass wasting may occur intermittently during the remainder of the initial storm event and during subsequent storms, but any associated minor increase in overall suspended sediment concentrations would likely not impact Casitas operations at Robles. To provide a factor of safety and additional conservatism, a downstream impact duration of seven days was selected for comparison purposes with other initial options.
   - The fine sediment assessment estimates that only a portion of the accumulated fine sediment will mobilize during the first large storm, but that the remainder of accumulated fine sediments will essentially be naturally stabilized in place (albeit for some periodic mass wasting, as mentioned above).
   - Based on presented results, IO-02 and IO-03 (orifice options) scored highest due to relatively low costs and construction duration
   - Based on presented results, IO-04 scored lowest due to relatively long construction duration and downstream fine sediment impact

2. A comment was made pertaining to downstream shallow water supply wells within or adjacent to the river that could be impacted by increased fine sediment concentrations. The technical analysis presented referenced literature that indicated fine sediment did not penetrate river/creek bed materials to an extent that would impact groundwater wells. The consultant team offered to send the referenced study to interested parties, and Meiners Oaks Water District offered to share data from previous storm events that reflected impacts to capacity associated with changes in river turbidity and other water quality indicators.

3. There was discussion of potential fine sediment impacts to spawning habitat downstream of the dam. There was mention that the current river corridor acts more as a fish highway than spawning habitat.

4. There was some discussion concerning the rapid breach examples presented (tailings dam failures). These examples were presented for context only, but did increase confidence in the assumed slump

slope applied to the fine sediment after reservoir drawdown and dam removal for IO-01.

5. There was some discussion concerning lateral migration of the phase I eroded channel through the accumulated sediments, and associated concerns with subsequent and significant sediment mobilization. The assessment determined that there was minimal risk of lateral migration, however, engineered solutions (to direct large flows at the upstream end of the reservoir) could be incorporated into a refined concept to reduce this risk further.

6. There was some discussion concerning the large footprint and location of the upstream temporary disposal areas included in Initial Option 05. Previous studies have indicated significant impacts to existing biological and cultural resources in this area, which will represent permitting issues and associated high mitigation costs.

7. It was noted that Initial Options 05 and 06 are more similar (relative to other initial options) to the approved project Alternative 4b from the USACE EIS/R process. There was significant discussion concerning which initial options could potentially be implemented under any future USACE fund appropriation, given the specific project description tied to that funding. The USACE described that they have flexibility to incorporate revisions to the "approved project", but that this cannot be fully addressed until after funds have been appropriated. There was a clear preference from certain members of the project management team that at least one initial option similar to Alternative 4b move forward for full evaluation, in the event that USACE funding becomes available and restrictions are placed on project modifications.

8. The USACE gave a summary on their anticipated scheduling for appropriations and subsequent restarting of the project. There was mention that the dam removal portion of the project (which the current ongoing studies address) are only a portion of the overall approved project and associated funding.

9. The USACE confirmed that the approved project budget would be escalated if the project makes it into future appropriations.

10. After some significant discussion, there was general consensus that refined versions of IO-01, IO-02/03 combo, and IO-06 (likely without a downstream slurry system) would move forward for full evaluation.

Hydrologic Assessment for Water Supply

11. Hydrologic Assessment for Water Supply: Seth G. presented the historic supply and demand data (provided by Casitas) associated with Lake Casitas, historic pertinent creek and river data, as well as an assessment that projected the effect of several disruption scenarios to diversion at the Robles facility on Lake Casitas storage volumes. Key discussion points include:
    - Robles diversion provided approximately 31% of the inflow into Lake Casitas; percentage could have been lower if all diversions had been managed to prevent reservoir spilling
    - Typical pattern of oscillation between wet and dry periods in the Ventura River watershed; roughly 10- to 15-year cycle for the past 50 years
    - Wet periods are sufficient to refill Lake Casitas without any diversions; therefore, implementation of a dam removal project during a typical wet cycle would have little to no effect on long-term water levels in Lake Casitas
    - Implementation of a dam removal project (assuming one to three storm disruption to Robles diversions) during one of the typical dry cycles could significantly reduce water levels in Lake Casitas
    - If suspension were limited to a few storms, loss of storage capacity could be limited to between 4 to 15 percent and would persist only until the next wet cycle

Options to Address Potential Impacts to Robles Diversions

12. Options to Address Potential Impacts to Robles Diversions: Seth G. presented initial concepts to address potential impacts to Robles Diversions

13. Issues of concern for downstream water users include increases in suspended sediment and organic material concentrations. Casitas has been able to divert at Robles through storm events with high suspended sediment concentrations, but presumably this can lead to maintenance issues within the canal or lake. Increased organic material concentration into the canal and lake can lead to water quality issues and algae blooms. Casitas has initiated measures to address this existing concern through Pak27 treatment and aeration.

14. Measures to address potential impacts include upstream replacement diversions and transfer pipelines (relatively high cost), treatment improvements (at Robles, canal, lake or WT plant), replacement supply (transfers, infiltration galleries, desalination), or reuse and conservation.

15. There was confirmation from several attendees that local recycle water programs do exist and are planned to expand.

Action Items:

- Consultant team to share pertinent reference(s) pertaining to creek suspended sediment impact on groundwater wells
- Meiners Oaks Water District to share pertinent data on well capacity and river water quality
- Consultant to proceed with full evaluation, using 3 refined concepts (IO-01, combo IO-02/03 and IO-06); evaluation criteria to be determined under multiple categories, and subsequent TAC meetings to be held in early 2015

ATTACHMENT 1 – Meeting Sign In Sheets

Matilija Dam ERP Technical Advisory Committee Meeting – September 18, 2014

SOY Conference Room

PRINT NAME	AGENCY	PHONE #	EMAIL
Johan Wasserman	Self	805 896 8990	vanaargan@gmail.com.
Mike Hollenbeck	MWD	805.646-2114	mikehz@mcnerneycockerham.com
Karen Weber	City of Ventura	677-4128	kweber@ci.ventura.ca.us
RYAN KINTZ	City of Ventura	652 4582	rkintz@venturawater.net
Laura Rieag	The Nature Conservancy	290-4476	LRieag@tnc.org
Russ BAGGERLY	CMWD	646-0767	RUSS.BAGGERLY65@GMAIL.COM
Bruce Kuebler	Ventura River WD	643-3050	pbkueblerecobroglobal.net
BERT RAPP	VENTURA RIVER WD	646-3403	BERT@VENTURARIVERWD.COM
Chris Dellith	USFWS	644-1766	chris_dellith@fws.gov
Blair Greimann	Reclamation	303-445-2563	bgreimann@usbr.gov
Pam Lindsey	VCWPD	805 654 2036	pam.lindsey@ventura.org
Justin Stuyvesant	VCWPD	805 654-2011	justin.stuyvesant@ventura.org
Martin Potter	CDFW	805-640-3677	Martin.Potter@wildlife.ca.gov
Paul Jenkin	Matilija Coalition	205-4953	pjenkin@surfrider.org
STEVE OFFERMAN	Supervisor Bennett's Office	654-2703	steve.offerman@ventura.org
Shana Epstein	VenturaWater	652 4518	sepstein@venturawater.net
STEVE WICKSTRUM	CASITAS MWD	649-2251	SWICKSTRUM@CASITASWATER.COM
JAN JENNICHES	COASTAL CONSERVANCY	510-286-4092	sjenniches@scc.ca.gov
BRIAN CLUER	NOAA FISHERIES	707.575.6066	BRIAN.CLUER@NOAA.GOV
YANTAO CUI	Stillwater Sciences	925-418-6312	~~yantao cui~~ yantao@stillwatersci.com
Derek Booth	"	206-914-5031	dbooth@stillwatersci.com
CRAIG SMITH	URS	510.874.3117	CRAIG.SMITH@URS.COM
John Roadifer	URS	510 874 1732	john.roadifer@urs.com