

Design Team/IDT Meeting Notes

26 July 2017

Attending in person: Robert Franklin (HVT), Trevor Morgan (DWR), Andreas Krause (YT), Kyle DeJulio (YT), Robert Stewart (Reclamation), Mike Dixon (Reclamation), Mark Smelser (CDFW), Steve Layman (BLM), Dave Gaeuman (Reclamation), Brandt Gutermuth (Reclamation), Jennifer L. Norris (USFWS), Damon Goodman (USFWS), Wes Smith (NMFS), Phil Fishella (USFS)

Attending via WebEx: Seth Lawrence (DWR), Scott McBain (McBain Associates)

The meeting opened as usual with introductions, then shifted to firming up logistics for the Design Team WG float the following day.

The first agenda topic was a presentation by Trevor on Dutch Creek updates. The only significant change to the design from the last update was the addition of a spoils area on river left; total spoils are estimated at 63k yd³. He anticipates having a draft 30% design report for comment by 18 August, with comments due back from the WG on 01 September.

- Mike mentioned that, based upon a recent agency coordination meeting, the USFS believes that it may be prudent to include the possibility of placing spoils on NFS lands
- There was an inquiry about the possibility of hitting bedrock on the forced meander, and whether we would field fit or chip out the outcrop to take the feature to grade. State is fairly confident of depth to bedrock due to two separate, largely congruent seismic surveys.
- Kyle asked about comparable projects to that excavation volume, which is not unprecedented in recent projects.
- There was a question regarding the modeling of projected post-construction velocities; specifically, it appeared that there was an increase in velocity near Last Hole on the Left. This is likely a modeling artifact, but Trevor will follow up.
- Wes is doing the wood design for the project, which will likely be limited due to the limitations on site-generated wood and the logistical challenge of importing material.

Dave gave a presentation on the existing conditions at the Sky Ranch site, with an overview of channel evolution based on historical aerial photos, and a discussion of the old side channels that were previously built on the site. Existing terrace is extremely high – while the valley width is approximately 1000', the area suitable for riparian vegetation is limited to approximately 50'. Lowering the terrace could require excavation of at least 350k yd³.

- Kyle asked if we have historical maps of bird nesting to identify areas which may need to be avoided during the start of construction due to site fidelity. Some data likely exist.
- There was a question regarding the scale/measurement units of the fish habitat area graph
- There was some discussion of the relative function of the existing, partly flowing (though mostly via hyporheic flow) side channel. Kyle reminded the group that a “failed” side channel still provides good habitat at higher flows, which may be relevant to fish.
- There was some interest in the impacts of the recent state decision to list foothill yellow legged frogs as a candidate species; Ken Lindke will likely have to fill us in more at a future meeting.

- Conor inquired about the subsurface composition of the site, Mike promised to send out the existing geological report to the WG (done).
- Robert F. asked what interactions between Sky Ranch and Upper Junction City features should be weighed. Wes followed up by asking about the sediment and large wood supply required to maintain potential and existing features, and reemphasized the need for a larger vision.
- It was mentioned that ESL boundaries should be looked at and adjusted if necessary
- Mike brought up the importance of reviewing and summarizing the design and review history of a site in the design report, as some of these sites in queue have had one or more designs developed previously. Acknowledging the evolution of the designs is important in understanding how we chose to do or not do a specific thing in a specific place.

Andreas gave an overview of the existing conditions at the Oregon Gulch site. The walls of tailings are one of the most apparent constraints. He recommends some adjustments to the ESL boundary. Outreach is well underway, and both the BLM and private landowners on river right are very interested to work with us. There is a house on the edge of the 100 yr floodplain on river right that may be a constraint. Andreas asked for documentation from the program confirming that we can lower, but not raise, the flood elevation. He provided an overview of channel migration history and described the preliminary work they have done to determine groundwater flow paths through the tailings. Water comes off the valley wall and both flows subsurface and through the dredge ponds; at high flows river influences ponds, but at low flows water flows from ponds out to the river. The ponds are substantially warmer (3-5 °C) than the river at peak flows. DO was much higher in river than in ponds, but Andreas will be resurveying temp and DO at summer base flow.

- Regarding fish habitat, the riffle exiting Sheridan Hole has some redds, but overall very little spawning habitat within ESL until far downstream end. Conor brought up the possibility of cold water seeps through the terrace influencing downstream redds; Andreas will measure water temps in that area to investigate
- There was a tangential but important discussion of the need to come up with a common methodology and metric for characterizing fish habitat pre- and post-construction. This is really a Fish WG topic, and has previously been referred to that group for an answer.
- Mike mentioned that the approach to summarizing existing conditions in a report for comment may be as the background of a conceptual design report, rather than as a standalone document.
- Wes brought up the importance of looking upstream and downstream at fish spawning and rearing habitat potential in that reach, rather than just characterizing it within the ESL
- Conor thinks that there would be value in seeing the habitat-area relationship presented spatially at different flows
- A potential constraint or challenge that the team is already aware of is that Oregon Gulch wetlands have the highest elemental and methyl-mercury of sites sampled along the Trinity. Kyle suggested that increasing DO to the ponds by surface connection could reduce methylation. There was discussion of sediment/water/biological standards for mercury and questions regarding the need to do additional samples. Damon suggested also sampling lamprey for mercury. This is a topic that will be discussed by a subgroup outside of the design team WG framework. Gutermuth will report back at a future meeting.
- There was a question regarding the fish barrier at the Oregon Gulch crossing by Sky Ranch Road. County has not supported removing the barrier because the upstream landowner is not

interested in having listed fish on his property. Wes offered that a safe harbor agreement might negate that concern.

- Kyle mentioned that a design objective might be increasing stream length

We then shifted to a discussion of what additional data might be important for informing the development and evaluation of design alternatives.

- Kyle again suggested that gathering existing bird data could be informative to design because their fidelity to nesting sites could inform challenges to construction sequencing.
- Ken stated that teams should include existing data on foothill yellow legged frogs
- Kyle offered that including what has or has not worked in past restoration efforts in the Junction City valley could be valuable
- There was a question regarding need/value to sample mussels and lamprey. Damon questioned value of lamprey sampling as it likely wouldn't inform design. Would we avoid them during design? Perhaps more relevant to pre-construction and environmental review, but a topic of further inquiry. Mussels seem more likely, given that the state has an interest in seeing us relocate mussels. Andreas suggested that this year's experience with the mussel relocation at Sheridan Creek might inform if we do it again in the future. **Action item: Andreas and/or Brandt should report back to WG on the experience and efficacy of mussel relocation from this August at the next design meeting.**
- There was a long discussion of how we decide what to do at a given site. Kyle brought up that the metrics from the river corridor strategy could inform design objectives for individual sites or suites of sites. There was the fundamental question of when you look at a site, how do you define the things that need improvement, or in other words, how do you define the problem(s) that we need to fix at a local scale? Some of this is a need for strategy at a river corridor scale, and some is more a need for a structured decision making framework to evaluate alternative designs or combinations of objectives
- Damon brought up the importance of comparing hydraulic model output of designed, as built, and evolved designs, which led to a long discussion of how to standardize data collected and analyzed to be able to evaluate performance over time.
- Steve mentioned that, on its face, both the conditions and potential alternatives seem much clearer at the Sky Ranch site than the Oregon Gulch site
- Ken (and Mike) thinks that clearly articulating known social constraints or concerns could be important to developing and evaluating designs.
- Mike mentioned that a BLM ID team is likely going to try to do site visits in the 1st week of October to look for potential red flags.
- **Federal team developing Sky Ranch should include a FEMA inundation map with existing structures to confirm that there are no structures which would be impacted by changes in flood elevation**
- Dave mentioned that we need to confirm that there are no constraints at Sky Ranch from the CalTrans right-of-way for CA-299 adjacent to a dredger swale in the NE corner of the site. He also mentioned the importance of re-scoping or otherwise collecting additional public input to draw attention to unknown social constraints or concerns.