

CALFED Bay-Delta 2002 ERP Directed Actions -- Selection Panel Review

Proposal Number: 89DA

Applicant Organization: M&T Chico Ranch

Proposal Title: M&T/Llano Seco Fish Screen Facility – Short-Term/Long-Term Protection Project

Recommendation: Fund In Part

Amount: \$636,650

Conditions: Funding should be for one year for those costs associated with efforts to form a Steering Committee and further develop the long-term planning study, with funds set aside to address the short-term fix (likely covered by tasks 1 through 7, totaling \$636,650).

Provide a brief explanation of your rating:

The applicant originally proposed to implement a short-term solution and to study a long-term solution to threats posed by river meander to continued operation of the M&T/Llano Seco fish screen facility. Based on review of the original proposal, the Selection Panel highlighted four issues: (1) that the short-term solution had already been implemented and therefore should not be funded; (2) that task 12, described as “obtain funding for a preferred alternative”, should not be funded; (3) that the revised proposal should not be solely focused on protecting the existing facility, but should consider alternative means of meeting the water needs of the beneficiaries of the present facility; and (4) that a steering committee be formed to guide development of the long-term solution. In response to the first issue, the revised proposal clearly recognizes that the short-term solution had already been implemented, but asks for funds sufficient to fund the short-term solution two more times, in the event that it is needed. The Selection Panel recognizes the potential need to implement a short-term solution, but recommends that funding for one implementation be set aside (likely covered with the first-years funding for tasks 3, 4 and 5, totaling \$325,000) and that the ERP condition access to these funds such that the applicant would need to seek approval of the ERP prior to implementing the short-term solution. For the second issue, the revised proposal deletes task 12 and no longer requests funding to obtain funding. On the third, the revised proposal clearly states that it will consider alternative means of meeting water needs while maintaining the natural river meander process. For the fourth, the revised proposal forms a steering committee, but the committee is inadequately described and yet the proposal describes a long-term solution without the guidance provided by the committee. The Selection Panel recommends funding in an amount sufficient to form the steering committee and to develop a more detailed proposal for a long-term solution under the guidance of the steering committee (likely covered with funding levels described for tasks 1, 2, 6 and 7, totaling \$311,650). The panel also recommends that the steering committee include a fluvial geomorphologist and a hydrological modeler. These should be individuals with strong scientific credentials, but should not be experts from the firms described in the revised

proposal. The Selection Panel recommends that the ERP review and approve the make-up of the committee. The panel also agrees with the technical reviewer who recommended that the proposal identify the type of model the applicants expect to use, but the panel recommends that the applicants work with the steering committee to identify modeling needs.

Research and Restoration External Review Form
CALFED Ecosystem Restoration Program 2002 Proposal Solicitation Package

Proposal Title: M&T/Llano Seco Fish Screen Facility - Short-Term/Long-Term Protection Project

Review:

Goals, Justification, Timeliness The proposed work has two goals: 1) deal with the immediate problem of the gravel bar threatening the existing fish screen facility and the City of Chico's Wastewater Treatment plant outfall; 2) develop a long term plan ("solution") for dealing with the probable continued deposition of sediment that results in gravel bars and eddies in front of the pumping plant fish screens. No question that this is timely – indeed it is urgent. So the goals, justification and timeliness are all quite clear and acceptable.

Approach, Methods, Feasibility

I. The approach and feasibility for the **first goal** (gravel bar removal) is justified and should move forward as soon as possible. The only concern here is that they do not present convincing evidence that the very activities related to this process will not cause excessive environmental impacts.

1. Their plan to put in culverts over Big Chico Creek is probably necessary but should be done in haste. The 5-10 ft berm that will be left on the outer edge of the bar ("to reduce/eliminate turbidity" during the process) is less certain [to work].
2. They must act and move forward with this but in the event they need to do this again in the future, they should be required to gather useful data on time period of each phase, turbidity levels throughout the process (in the main channel and at increments away from the gravel bar removal site), as well, as other water quality data and any fish kills. This should be done pre, during, and post. It may help determine how or if future such projects should be altered or not done at all (if the impacts are severe).
3. Finally they should also provide a list to CALFED of the parameters that they will specifically measure with respect to the gravel bar (item 4, page 6 quite vague). At present, this is not written in a rigorous geomorphic framework.

II. The **second goal** is also justified and should move forward. However, it is not yet clear that they have the full expertise lined up nor a well thought out plan. Since a "thought out plan" does require some time and money, perhaps they could receive some funds to do this rather quickly BUT full funds should not be provided for the long term solution portion of this proposal until they do the following:

1. Recruit their advisory team members – specifically, the technical experts should be identified to CALFED prior to funding. Given the tilt of the expertise of the engineers from Montgomery Watson Harza, they need to bring to this advisory team a fluvial geomorphologist (not an engineer). This would help balance out the expertise (I realize Dubé has expertise in this area and others may have dealt with related issues; however, given the specific problem they are dealing with, they need a more than one point of view here). The second person they bring in should be a hydrological modeler. These should not be experts from the any firms with an interest; they should also be individuals that have strong scientific credentials.
2. The type of model that they anticipate developing should be addressed. There are many ways to approach such a modeling framework. They will probably need a 2D model and they need to outline enough about their approach to convince reviewers they can pull this off. Furthermore, their advisory team should have a modeler (again, without financial or other interests in the project) who can technically evaluate this. The model should be closely tied to sediment dynamics ... i.e., the goal should be to understand sediment delivery to the area (bedload and suspended load) and deposition as well as larger issues of channel form and dynamics at larger scales.

Novelty, Likelihood of contributing to knowledge base, Utility to Decision makers

Not a novel problem and not geared toward contributing to a broad knowledge base, however it will have high utility.

Performance Measures:

As outlined above they are somewhat weak in the assessment (environmental not project) area. They need a formal, rigorous pre and post assessment of impacts of gravel bar removal. Their measurement of hydraulic and channel factors to parameterize their model is very sketchy.

Capabilities on authors, Infrastructure support

MWH has a strong team of engineers – they are mostly experts in water delivery systems, hydraulic structures, dams, and reservoirs. With the exception of Dubé, they do not appear to have a lot of geomorphological or natural channel process expertise. This makes the inclusion of the type people suggested for the advisory panel important. They told us nothing about the credentials of individuals with Ayers yet this is the firm that will do the modeling.

Recommendations

Goal 1 – removal of gravel bar: HIGH priority. Fund immediately after CALFED makes final decision on need to comply with recommendations I. 1. 2. 3.

Goal 2 – long term solution: MEDIUM priority based on proposal (HIGH priority in term of needs).

Recommend they only be funded if they accomplish II 1.2. above (recruit advisory team; receive approval of team from CALFED or external reviewers; outline modeling approach and receive approval from CALFED or external reviewers).

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
- Excellent	Goal 1 – removal of gravel bar: HIGH priority. Fund immediately after CALFED makes final decision on need to comply with recommendations I. 1. 2. 3. Goal 2 – long term solution: MEDIUM priority for funding based on proposal (HIGH priority in term of needs). Recommend they only be funded if they accomplish II 1.2. above (recruit advisory team; receive approval of team from CALFED or external reviewers; outline modeling approach and receive approval from CALFED or external reviewers).
- Good XXX	
- Poor	

Research and Restoration External Review Form
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Proposal Title: M&T/Llano Seco Fish Screen Facility – Short Term/Long Term Protection Project

Review:

Goals. Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

The project is a follow up action to a previous CALFED funded fish screen and diversion consolidation project. The primary goals are to remove river sediments to allow continued operation of a new pumping plant and fish screen (circa 1997) while investigating corrective actions that would provide long-term solutions. The goals are very timely and important to maintaining the prior investment in diversion relocation and fish screening.

Justification. Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

Removal of gravel bars that have formed adjacent to the new pumping plant and fish screen structure are clearly an operation and maintenance issue required to keep the existing facility operational. This portion of the study is not justified by normal proposal goals as stated above (research, pilot or demonstration project, or a full-scale implementation project research goals). Sediment removal is likely needed to maintain operation of the facility (identified as a short term solution) and therefore has benefit.

Investigating long-term solutions that allow for lateral river migration is justified. The historic (and likely easiest) solution would be placement of revetment material along the river to constrain or eliminate the natural meandering river process near the site.

Approach. Is the approach well designed and appropriate for meeting the objectives of the project? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology or approaches? Will the information ultimately be useful to decision-makers?

The approach does not clearly define how much sediment removal will be required and how many times will they reenter the river. The proposal states up to 100,000 yds³ may have to be removed to maintain facility operation. Is the sediment removal planned for a one-time action covering 8 acres or possibly several removals over the project duration? The current estimate of future sediment deposition in the excavated area is unclear in the proposal. The proposal states it will “Provide continued support to maintain the gravel bar at its 1995 size”. The terms “continued support” imply multiply sediment removal efforts are anticipated. The proposal should distinguish between bar removal and river channel reconstruction.

The approach to finding a long-term solution is appropriate. The solution will not likely be simple or black and white. A strong research approach is needed. A good literature search, brainstorming and river modeling are all essential components that will be required to identify and investigate solutions.

If the project results in solutions that embrace river meandering as a parameter that must be accommodated rather than controlled, fish protection science and the river will benefit.

Feasibility. Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

The short-term sediment removal goal is feasible. Investigating possible long-term solutions as described in the proposal is feasible. Identifying solutions that are in keeping with the goal of maintaining a freely meandering river corridor may be much more difficult.

Project-Specific Performance Measures. Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

The project provides little performance related measures. They plan to monitor post-excavation sediment deposition. This is not viewed as a performance measure, rather a means of scheduling future O&M activities.

Products. Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

The main product would be innovation that improves the flexibility of pumping stations to adapt to streams that can migrate laterally.

Capabilities. What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

The capabilities of the consultants involved are very good. Without additional background, one questions why the current problem wasn't better foreseen during the initial project.

Cost/Benefit Comments. Is the budget reasonable and adequate for the work proposed? Why is gravel bar reduction higher the third year than the first year? Why do you need \$100,000 in gravel bar engineering in both the first and third year? Is \$25k needed every year to monitor the gravel bar?

The project seems to be cost-weighted toward project management and gravel bar maintenance rather than finding a long-term solution. Why is \$100,000 needed for gravel bar engineering in both the first and third year? Why is gravel bar reduction cost 1.8 times higher (\$355,000) the third year compared to the first year? Is \$25,000 required each year for monitoring the bar?

Miscellaneous comments:

Please provide an overall evaluation summary rating: Excellent: outstanding in all respects; Good: quality but some deficiencies; Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
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- Excellent	Good in the approach to a long-term solution. Poor in that the focus should be much stronger on resolving the long-term issue. Based on the nearly 1 million dollars dedicated to gravel bar removal, I got the impression that the hope is if one digs a big enough hole, the river may return and stay in its old location.
- Good/Poor	
- Poor	

***CALFED Bay-Delta Directed Action
Administrative Review
Budget Evaluation***

Proposal number: 89DA

Proposal title: M&T/Llano Seco Fish Screen Facility

Does the proposal include a detailed budget for each year of requested support?

Yes

If no, please explain:

Does the proposal include a detailed budget for each task identified?

Yes – The budget for each year addresses the 13 tasks identified in the Project Work Schedule.

If no, please explain:

Does the proposal clearly state the type of expenses encompassed in indirect rates or overhead costs?

Yes

If no, please explain:

Are appropriate project management costs clearly identified?

Yes

If no, please explain:

Do the total funds requested (Form I, Question 17A) equal the combined total annual costs in the budget summary?

Yes

If no, please explain (for example, are costs to be reimbursed by cost share funds included in budget summary).

Does the budget justification adequately explain major expenses?

Yes **No**

If no, please explain: **The budget explanation does not explain the costs associated with the gravel bar removal. It simply says that “all work will be contracted out.” The budget tables contain the dollar estimates for this work, but there is nothing that covers this portion in the justification or explains how these costs were derived.**

Are there other budget issues that warrant consideration?

No

If yes, please explain:

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