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August 15, 2018

Mark McLaughlin, Director  
California High-Speed Rail Authority Environmental Compliance  
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**Subject: Santa Clara River Crossing (Soledad Canyon) – Data Request for the  
SR-14 Alternative Alignment of High-Speed Rail – Palmdale to Burbank**

Dear Mr. McLaughlin:

The Department attended a site visit for the SR-14 Alternative Alignment - Santa Clara River Crossing (Soledad Canyon) on January 25, 2017 with the High-Speed Rail Authority (Authority) and their consultants. The crossing location is currently under consideration by the Authority for the Palmdale to Burbank (P-B) segment of the High-Speed Rail (HSR). The site visit was a follow-up to the initial office meeting held on December 8, 2016. The California Department of Fish and Wildlife (CDFW) appreciates the early consultation and the ability to engage in the discussions and evaluations of any crossing. We further appreciate the opportunity to provide comments and recommendations regarding California's fish and wildlife resources, including state-fully-protected species, California Endangered Species Act (CESA) listed species, and streambed alteration that occur in the area of the proposed bridge crossing. Route and design alternatives for the P-B segment remain under consideration by the Authority; therefore, the design plans for the Santa Clara River crossing are preliminary. CDFW requests additional opportunities to consult and visit the project site once design plans reach additional milestones.

The January 2017 site visit was an important and useful first step for CDFW to view actual site conditions and begin our assessment of the area, species, and habitat concerns associated with any proposed crossing over Santa Clara River. The site visit however, was limited due to access constraints to most of the Santa Clara River crossing area that restricted the ability to conduct a complete field review. Prior to the alternative selection, 65% bridge design milestone, and bridge design selection, CDFW's engineering team and scientific staff request further evaluation of the plans and project site.

During the January 2017 site visit, the following items were discussed:

- The Authority indicated that the HEC-RAS modelling for the bridge will be submitted for Department review, but the model has not been calibrated. CDFW expressed concerns about using such a model and recommends that it be calibrated. The HEC-RAS modelling for the bridge should include the bridge and study designs; the assumptions for the designs; studies; models, and other supporting documents/studies, including use of HEC-RAS 18 to support the scour analysis.
- Studies (e.g., hydrologic, hydraulic, or scour) are needed to inform the no-water-contact construction approach necessary to completely avoid impacts to the state-fully-protected unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*). Prior studies on such construction focused on low-flow conditions in the dry summer months and only addressed constructability. The studies for the Santa Clara River crossing will need to

address a range of flow conditions during construction as well as post-construction activities.

- The northwest segment of the bridge alignment that crosses Bee Canyon has many sensitive biological resources constraints, including but not limited to, streams and federal- and state-listed species, (e.g., slender-horned spine flower [*Dodecahema leptoceras*] and California gnatcatcher [*Polioptila californica californica*]). The bridge design and supporting documentation should include design plans for the grading required for this area.

The Department recommends the Authority provide the below requested information and studies for the bridge to demonstrate complete avoidance of the unarmored threespine stickleback:

- Detailed description of the geomorphic setting and why the bridge design is appropriate for the setting;
- Geomorphic assessment of stream bed/bank stability, including potential influence of downstream mining operations and other cultural activities on stream stability;
- Potential for debris loads or jams at bridge site;
- Sediment transport and scour analysis (cannot rely on existing non-engineered gabion-like structures);
- Hydraulic studies (including model files, boundary conditions and other model parameters) showing water surface profiles and average channel velocities for the design flows and the 50- and 100-year flows;
- Geotechnical assessment likely will be necessary to ensure project design is structurally appropriate; and,
- Design drawings showing site topography, control points, dimensions of bridge in plan, elevation, and longitudinal profile and cross-sectional views.

Thank you again for the opportunity to participate in the site visit for the SR-14 Alternative Santa Clara River Bridge crossing that is being considered by the Authority for the P-B segment of the HSR. CDFW looks forward to reviewing additional information on the crossing and providing further review and recommendations to assist the Authority.

If you have any comments or concerns regarding this correspondence, please contact Erinn Wilson, Environmental Program Manager at (562) 342-7172 or [Erinn.Wilson@wildlife.ca.gov](mailto:Erinn.Wilson@wildlife.ca.gov).

Sincerely,



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