



June 8, 2020

Governor's Office of Planning & Research

Mark A. McLoughlin
California High-Speed Rail Authority
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STATE CLEARINGHOUSE

Dear Mr. McLoughlin:

The California Geological Survey (CGS) has received the Notice of Preparation for the Draft Environmental Impact Report/Environmental Impact Statement for the California High-Speed Rail (HSR) San Jose to Merced Project Section (SCH# 2009022083). Staff from the CGS Seismic Hazards and Mineral Resources programs reviewed proposed locations of the rail line, related structures, permanent easements, and right-of-way in relation to geologic hazards, seismic hazards, and mineral resources. Spatial data and background technical reports were provided by the High-Speed Rail Authority (hereafter referred to as the Authority), and all four project alternatives were considered in the review.

CGS provides the following comments for consideration:

1. Geologic Hazards

The Authority identifies numerous geologic hazards in the Geology, Soils, and Seismicity Technical Report dated September, 2019. This report adequately assesses the general distribution of these hazards and identifies a range of potential mitigation options that the design-build contractor should consider, pending site-specific investigations. CGS notes that the adequacy of these site-specific investigations and mitigation measures cannot be evaluated at this time.

2. Seismic Hazards

The Authority identifies primary seismic hazards of surface fault rupture and ground shaking, and secondary seismic hazards of liquefaction and earthquake-induced landslides in the Geology, Soils, and Seismicity Technical Report dated September, 2019. This report adequately assesses the project's general exposure to the hazards of ground shaking, liquefaction, and earthquake-induced landsliding, and identifies a range of potential mitigation options that the design-build contractor should consider, pending site-specific investigations. As noted

above, the adequacy of these site-specific investigations and mitigation measures cannot be evaluated at this time.

The primary seismic hazard of surface fault rupture is addressed in a series of background reports. Lettis Consultants International (LCI) produced three fault evaluation reports dated April, 2017 that explain the process for screening fault hazard (Figure 1) and document the known properties of faults that cross or are within 1,650 feet (500 meters) of the project. The hazard of each fault is then classified in a separate report prepared by the Seismic Specialist Team – Fault Displacement (SST-FD), dated July, 2017. The LCI reports indicate that faults classified as either Class A Hazardous or Class B Hazardous would then be subject to a fault displacement hazard analysis.

The fault evaluation reports by LCI adequately characterize faults in the project area. However, CGS notes the SST-FD report classifies the Monte Vista-Shannon fault as “nonhazardous,” which does not appear to be consistent with the Authority’s screening process (Figure 1) considering the data presented in the fault evaluation report. LCI concluded the Monte Vista-Shannon fault is an active fault with a slip rate of less than 1 mm/yr, and that additional work is warranted to confirm or disconfirm mapping that shows the fault as potentially intersecting the project. **CGS recommends that a “nonhazardous” classification for the Monte Vista-Shannon fault should be supported by additional work as specified by LCI.** Alternatively, a conservative approach would be to classify the fault as Class B Hazardous, consistent with the Authority’s screening process.

CGS also notes that in the Geology, Soils, and Seismicity Technical Report dated September, 2019, the Authority states that all HSR components will be designed for “...the effects of earthquakes, including potential bending moments, shear forces, and displacements resulting from surface fault rupture” (p. 5-46). However, none of the reports submitted to date include any fault displacement hazard analyses. As such, CGS cannot comment on whether the primary seismic hazard of surface fault rupture has been adequately assessed.

3. Mineral Resources

CGS provides objective economic-geologic expertise to assist in the protection and development of mineral resources through the land-use planning process. This effort is mandated by the Surface Mining and Reclamation Act of 1975 (SMARA). The primary products are mineral land classification maps and reports. Local agencies are required to use the classification information when developing land-use plans and making land-use decisions.

When determining if a proposed project is within a Mineral Resource Zone (MRZ), CGS refers the Authority to its published mineral land classification reports. Lands classified as MRZ-2 indicate a high likelihood that significant mineral deposits (construction aggregate) are present. Areas within an MRZ-2 that have land use(s) considered to be compatible with mining are identified as Sectors. The HSR project section is included in Special Report 146, Part II (CGS, 1987); Special Report 146, Part IV (CGS, 1989); Open File Report 96-03 (CGS, 1996); Open File Report 99-01 (CGS, 1999); and Open File Report 99-08 (CGS, 1999).


In addition to the reports prepared by CGS, the State Mining and Geology Board (SMGB) can designate Sectors it deems as land containing mineral deposits of statewide or regional significance through their Designation Reports. The proposed project is included in the Designation Report No. 7 prepared by the SMGB in 1987.

CGS finds that this project section of the HSR is on lands classified MRZ-2 and designated as containing aggregate deposits of regional significance in an area along the Pacheco Pass, east of Gilroy (Figure 2). The designated area contains about 19 million tons of concrete grade aggregate resources. The proposed project is a land-use incompatible with mining.

CGS recommends that the EIR be revised to accurately reflect the location of all lands classified MRZ-2 and designated by the SMGB within the proposed project section, and describe the potential impacts, or lack thereof, upon mineral resources.

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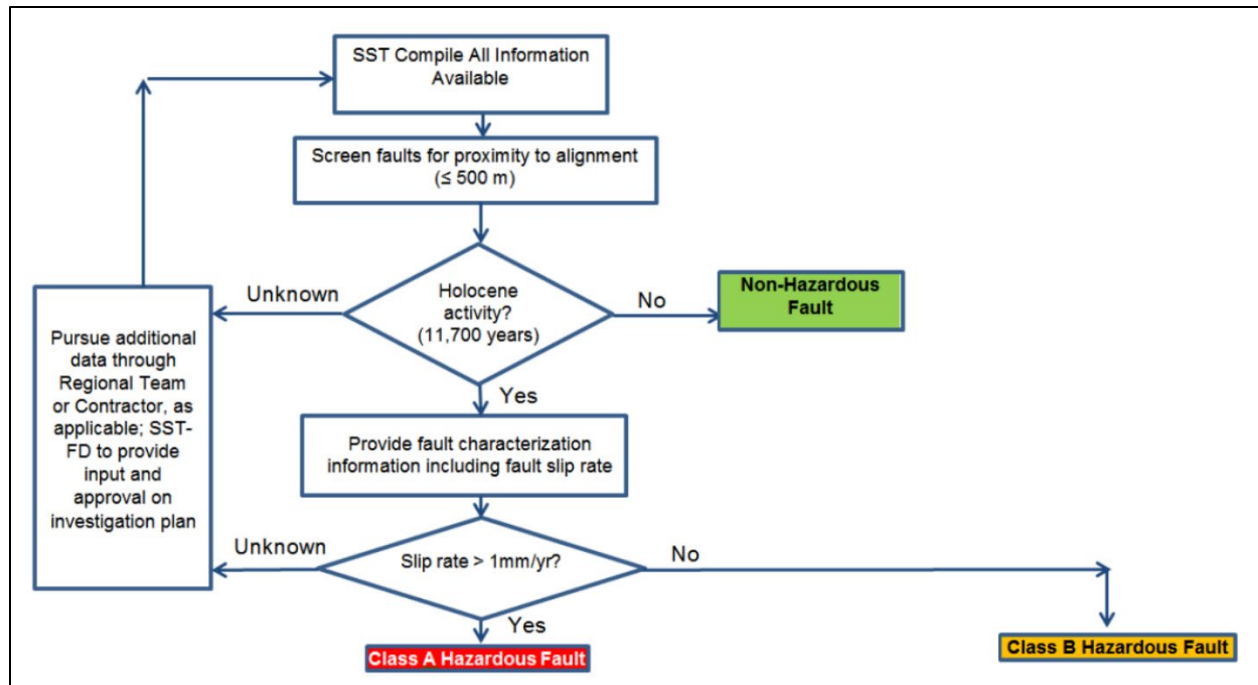


Figure 1. The Authority's flow chart documenting the fault screening process.

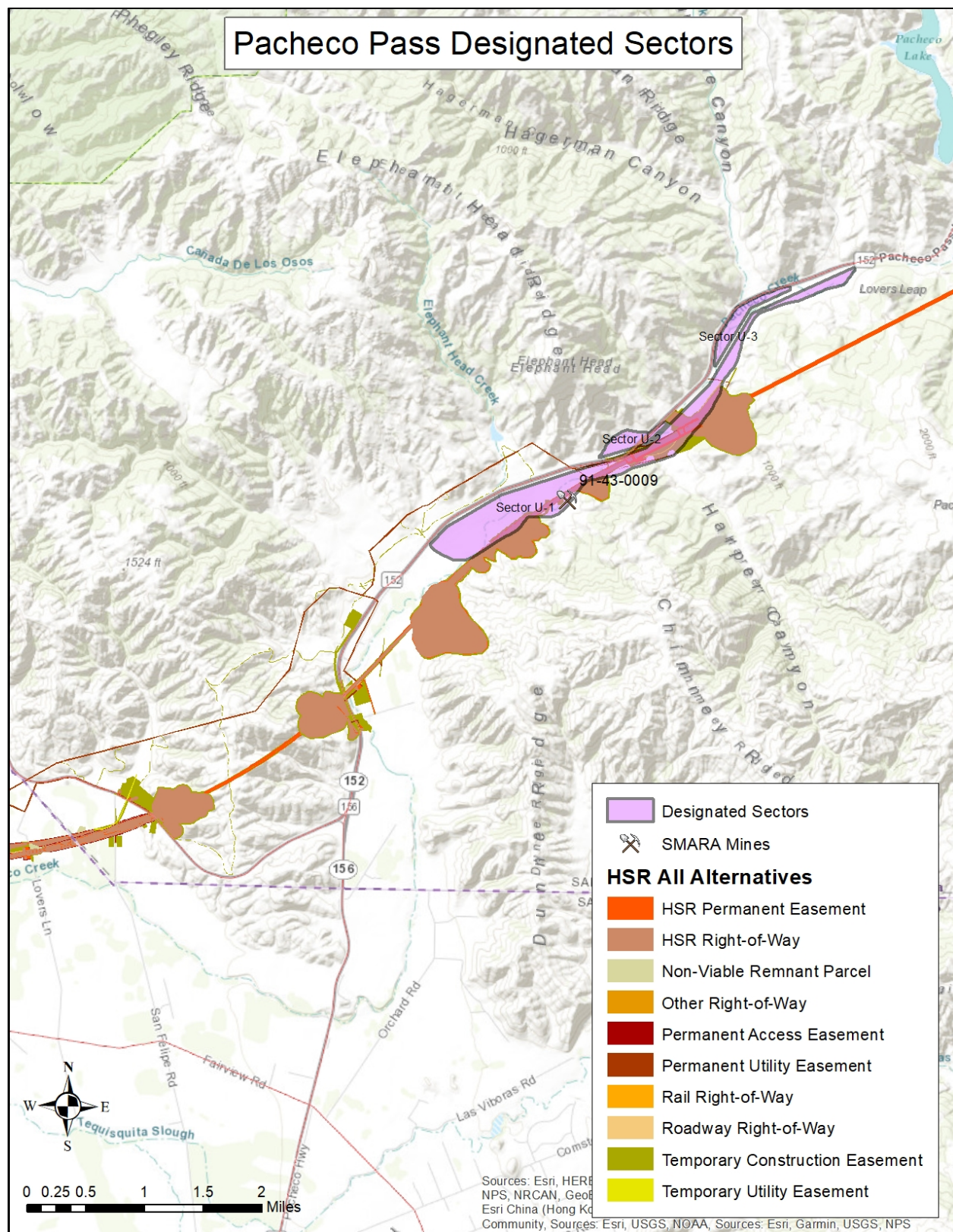


Figure 2. Lands classified as MRZ-2 in the Pacheco Pass area.