

HAYWARD FAULT/SEISMIC CONCERNS

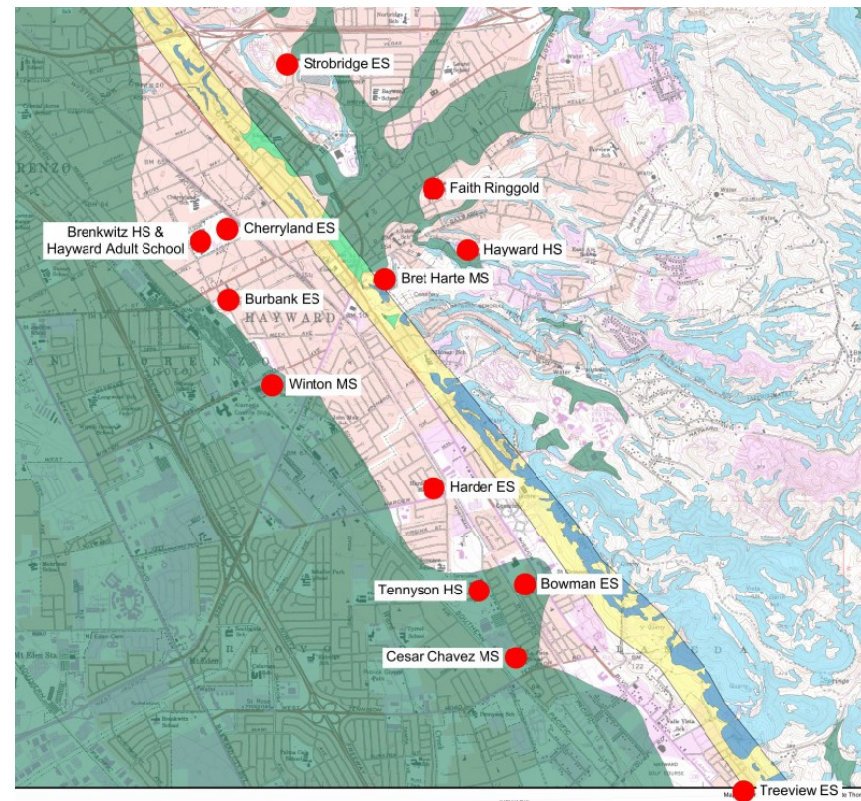
As part of its due diligence for this FMP Update, Derivi Castellanos Architects (DCA) reviewed California Geological Survey's Earthquake Zones maps, shown at right, to determine if any HUSD schools represent a concern related to earthquake faults or other seismic hazards. Based on this review, it appears that Bret Harte Middle School and Treeview Elementary School are partially within the Earthquake Fault Zone (yellow). Additionally, Bret Harte Middle School also lies partially within a Liquefaction Zone (green).

To better understand potential regulatory issues, DCA retained Donald C. Urfer & Associates, Inc. to provide a limited structural review of a potential modernization or new construction project at Bret Harte Middle School. Stephan Castellanos, California State Architect from 2000-2005, head of the Division of State Architect (DSA), which has jurisdiction of public school construction in California, provided a peer review of Urfer's structural review and an independent opinion on this issue.

Urfer's review points out that due to increased structural requirements since the school was originally built, "Bret Harte School would today be required to be designed for more than five times the original seismic design force." This requirement would apply to any new construction or significant modernization on this site. Both Urfer and Castellanos concur that this level of required structural rehabilitation due to the proximity of Bret Harte Middle School to an earthquake fault and a liquefaction zone would be cost prohibitive.

Although a structural review of Treeview Elementary School was not prepared, the structural rehabilitation requirements would be similar to Bret Harte Middle School. However, because the site is relatively flat and not located in a Liquefaction Zone, modernization on this site would be more feasible than on the Bret Harte Middle School Site.

Urfer's and Castellanos' written opinions are included in the Appendix.



Earthquake Fault Zones

Zone boundaries are delineated by straight-line segments; the boundaries define the zone encompassing active faults that constitute a potential hazard to structures from surface faulting or fault creep such that avoidance as described in Public Resources Code Section 2621.5(a) would be required.



Liquefaction Zones

Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.



Overlap of Earthquake Fault Zone and Liquefaction Zone

Areas that are covered by both Earthquake Fault Zone and Liquefaction Zone.