21. Geological Hazards

Overview

This section provides guidelines for evaluating a project's potential impacts related to geological hazards, including fault rupture, ground shaking, liquefaction, landslides, subsidence, expansive soils, and tsunami or seiche risks. The impact analysis includes assessing the project's location relative to hazard zones, exposure risks to such hazards, compliance with geological safety standards, and determining measures to mitigate potentially significant exposure risks to public safety and property.

This topic section is updated from the following section(s) from the existing ISAGs:

10. Fault rupture
11. Ground Shaking
12. Liquefaction
13. Seiche and Tsunami Hazards
14. Landslides/Mudslides
15. Expansive Soils
16. Subsidence

Thresholds of Significance

Impact analysis guidelines (formerly referred to as "Methodology") are provided accordingly for the following updated thresholds.

A project may have a significant impact if it would:

GEO-1 Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, strong seismic ground shaking, or seismic-related ground failure.

GEO-2 Be located on a geologic unit or soil that is unstable or cause the geologic unit or soil to become unstable as a result of the project, and directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving on- or off-site liquefaction, lateral spreading, landslide/debris flow, subsidence, or collapse.

GEO-3 Cause potential substantial adverse effects, including the risk of loss, injury, or death involving soil expansion if the project is located within a soils expansive hazard zone or where soils with an expansion index greater than 130 are present.

GEO-4 Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving seiche hazard if the project is located within 20 feet of vertical elevation from an enclosed body of water, such as a lake or reservoir or within a tsunami inundation hazard zone.

Legend:

Derived from Appendix G of CEQA

Derived from a combination of specific County standards and Appendix G of CEQA

Technical terms related to this section have been incorporated and explained throughout the discussions in this section.