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To: AdvancePlanning@dcd.cccounty.us
Cc: OLRA@DOC; OPR State Clearinghouse
Subject: Contra Costa County 2045 General Plan and Climate Action Plan Updates NOP - SCH #2023090467
Date: Thursday, September 28, 2023 3:58:29 PM
Attachments: [image001.png](#)

Dear Will Nelson,

The California Geological Survey (CGS) has received the Notice of Preparation of a Draft Environmental Impact Report (DEIR) for the Contra Costa County 2045 General Plan Update. This email conveys the following recommendations from CGS concerning geologic issues related to the project area:

1. Liquefaction and Landslide Hazards

Contra Costa County contains earthquake zones of required investigation (ZORI) for liquefaction and landslides mapped by CGS. CGS has published Earthquake Zones of Required Investigation Maps (EZRIM) for liquefaction and landsliding covering the Clayton, Honker Bay, Antioch North, Antioch South, Jersey Island, Brentwood, Bouldin Island, Woodward Island, and Clifton Court Forebay quadrangles within Contra Costa County. In addition, CGS has recently released preliminary EZRIM for the Mare Island, San Quentin, Vine Hill, Walnut Creek, Richmond, and Diablo quadrangles. These are currently available for public review, and official EZRIM for these quadrangles are expected to be released in February 2024. EZRIM for the Benicia, Briones, Valley, Las Trampas Ridge quadrangles are in development and planned for preliminary release in spring 2024. The DEIR and supporting documents should address liquefaction and landslide hazards as they relate to planned development.

The combined extent of the published EZRIM can be viewed here:

<https://maps.conservation.ca.gov/cgs/EQZApp/app/>

Individual Seismic Hazard Zone Reports, EZRIM, and associated GIS data are available for download here:

<https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps>

The County should already have been provided access to the preliminary EZRIM currently under review.

CGS suggests the zones of required investigation for liquefaction and landsliding be shown and discussed in the DEIR.

2. Surface Fault Rupture Hazard

Contra Costa County contains earthquake zones of required investigation (ZORI) for surface fault rupture (Earthquake Fault Zones [EFZ]) associated with the Hayward, Calaveras, Concord, and Greenville faults. The DEIR and supporting documents should address this hazard as it relates to planned development. Additional information is available at the links below:

<https://maps.conservation.ca.gov/cgs/EQZApp/app/>

<https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps>

CGS suggests the zones of required investigation for surface fault rupture be shown and discussed in the DEIR.

3. Ground Shaking Hazards

As noted above, the planning area contains EFZs mapped by CGS. In addition, numerous

other active faults are located nearby. The county, therefore, could be subject to significant ground shaking. The DEIR and supporting documents should address this hazard as it relates to planned development. Additional information about ground shaking hazard can be obtained at the following sites:

<https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=14d2f75c7c4f4619936dac0d14e1e468>
<https://earthquake.usgs.gov/scenarios/catalog/bssc2014/>

4. Tsunami Hazards

The CGS has mapped a Tsunami Hazard Area (THA) within the planning area. The purpose of a THA is to assist cities and counties in identifying their exposure to tsunami hazards. It is intended for local jurisdictional, coastal evacuation planning uses only. Additional information can be found at the links below:

<https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps>
<https://www.conservation.ca.gov/cgs/tsunami/maps/contra-costa>
https://www.conservation.ca.gov/cgs/Documents/Publications/Tsunami-Maps/Tsunami_Hazard_Area_Map_Contra_Costa_County_a11y.pdf

The County should also discuss that some areas may be within a Tsunami Design Zone determined by the California Building Code (CBC). The CBC requires certain design standards for essential/critical or larger structures. The following website provides additional information regarding Tsunami Design Zones: <https://asce7tsunami.online/>.

If you have any additional comments or questions, please feel free to call or email.

Thank you,
Judy Zachariasen



Judith Zachariasen, PhD, PG, CEG

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