

4.9 GEOLOGY, SOILS, AND SEISMICITY

4.9.1 INTRODUCTION

This section updates information presented in the FEIR and SEIR-1 regarding geological conditions and seismic hazards within or along the BART alignment.

4.9.2 ENVIRONMENTAL SETTING

The environmental setting presented in the FEIR and updates provided in the SEIR-1 related to earthquake faults and seismicity; soils and surficial deposits; and liquefaction remains applicable in the SEIR-2.

4.9.3 REGULATORY SETTING

The regulatory setting presented in subsection 4.9.3 of the SEIR-1, which described the Alquist-Priolo Earthquake Fault Zoning Act, the Seismic Hazards Mapping Act, and the California Building Code, remains applicable in the SEIR-2.

4.9.4 PROJECT IMPACTS AND MITIGATION MEASURES

Notable changes since certification of the FEIR and SEIR-1 are described below.

The discussion presented in the FEIR and updated in the SEIR-1 regarding potential surface fault rupture, earthquake-induced landslides, ground shaking, and liquefaction remains applicable in the SEIR-2.

Geotechnical studies performed for BART Silicon Valley and the results of the studies are discussed and referenced in the FEIR and SEIR-1.

As noted in the FEIR and SEIR-1, all structures associated with Phase 1 would be designed and built in accordance with current seismic design standards contained in the California Building Code, the BART Facilities Standards Design Criteria, and other applicable codes or regulations. There are no additional impacts resulting from the design changes, and no new mitigation is necessary.

A discussion of the capability of soils to adequately support the use of septic tanks or alternate wastewater disposal systems was not included as part of the FEIR or SEIR-1 and is therefore included in this SEIR-2. Phase 1 would generate a limited amount of wastewater and would dispose of wastewater through the use of existing sewer systems. No septic tanks or other wastewater disposal methods would be used. Thus, there would be no impact related to the need to support such systems.

Section 4.18, Water Resources, Water Quality, and Floodplains, of this SEIR-2 provides a discussion of potential impacts related to soil erosion.

4.9.5 CONCLUSION

With inclusion of design requirements such as the California Building Code and BART Facilities Standards, Phase 1 would not expose people or structures to potential significant impacts, including the risk of loss, injury, or death involving: the rupture of a known earthquake fault; strong seismic ground shaking; seismic-related ground failure (including liquefaction); landslide, lateral spreading, subsidence, liquefaction, and collapse as a result of underlying unstable geologic units; or expansive soil. The Phase 1 design has addressed the seismicity and various geological and soil conditions. No mitigation is necessary.