Liquefaction Susceptibility

Liquefaction Susceptibility
- High
- Moderate to High
- Moderate
- Low to Moderate
- Low
- Very Low to Low
- Very Low

Not Susceptible to Liquefaction
- Bedrock
- Peat
- Water
- Ice

Liquefaction Susceptibility Map in Kittitas County, Washington

This liquefaction susceptibility map provides an estimate of the likelihood that soil will liquefy as a result of earthquake shaking. It depicts the relative susceptibility in a range that varies from very low to high. Areas underlain by bedrock or peat are mapped separately as these earth materials are not liquefiable, although peat deposits may be subject to permanent ground deformation caused by earthquake shaking.

Liquefaction is a phenomenon in which strong earthquake shaking causes a soil to rapidly lose its strength and behave like quicksand. Liquefaction typically occurs in artificial fills and in areas of loose sandy soils that are saturated with water, such as low-lying coastal areas, lakeshores, and river valleys. When soil strength is lost during liquefaction, the consequences can be catastrophic. Movement of liquefied soils can rupture pipelines, move bridge abutments and road and railway alignments, and pull apart the foundations and walls of buildings.

The liquefaction susceptibility map is based solely on surficial geology published at a scale of 1:100,000 by the Washington State Department of Natural Resources, Division of Geology and Earth Resources. Liquefaction is a complex process that depends on the type and properties of the soil, the shaking intensity and duration, and the water content. The susceptibility map is a useful tool for assessing the potential for liquefaction in areas of the state and for planning and mitigating against its effects.

October 2010

Washington State Department of Natural Resources, Division of Geology and Earth Resources

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