

COSMOS Recommended Site Geologic Classification Descriptions

Summary geologic classification descriptions are useful to complement quantitative characterizations of strong motion sites, or when quantitative characterization is not available. COSMOS standard summary geologic descriptions include the following four standard elements:

- 1) General Classification The general classification is given by one of the three following types:
 - a) Fill
 - b) Alluvium (includes soils, etc.)
 - c) Rock

- 2) Alluvium or Fill Adjectives The following adjectives may be used preceding fill or alluvium to quantify the thickness (these depth ranges are consistent with the 1991 Uniform Building Code (UBC), Joyner and Boore (1988), and others):
 - a) Thin – less than 5 meters
 - b) Shallow – 5 meters to 60 meters
 - c) Deep – greater than 60 meters.The depth information should be reliable and specific as would be obtained from a nearby water well or drill-hole log (i.e., not conjectural).

- 3) Rock Adjectives For rock sites, the following adjectives may be used preceding the word rock to provide additional information:
 - a) Hard
 - b) Soft
 - c) WeatheredThe following adjectives may be used in parenthesis following the word rock:
 - a) Sedimentary
 - b) Metamorphic
 - c) Granitic
 - d) Volcanic

- 4) Specific Rock Type If the specific rock type is known, then it should be placed in parenthesis in place of the more general rock adjectives above. For example, “Weathered rock (sedimentary)” would be replaced by “Weathered rock (shale)”. Only rock types appearing on the CGS State Geologic Map are recommended; the name of the geologic unit may also be included.

Example:

“**Thin alluvium over hard rock (sandstone)**” is the summary classification for a site with less than five meters of alluvium overlying hard sandstone. (Note that only the first word is capitalized, and that “over” is used as a short form of “overlying”.)