

### 2.2.1 Development of GIS Engineering Geology Map

There are many ways to group rock and sediments with similar characteristics. For planning purposes, it is most appropriate to group features based on engineering properties, that is, the characteristics that have most importance to the built environment. For this report, more than 60,000 polygons (*area features*) were digitized from the geologic map data outlined above (Table 2-1) for Riverside County. These diverse geologic units were combined based on similar engineering properties. The properties were assigned based on the units' descriptions in the literature that accompanies the geologic maps (Table 2-1). Thus the assignments include many assumptions. The map is meant to provide general guidance to support land use decisions and policies. It should not replace or preclude site-specific observation and testing.

The general explanation of geologic and engineering geology unit symbols included with the digital data is as follows:

- The PType (petrologic type) was taken from the geologic maps at the time of digitization. 'Petrologic' includes the type of rock or sediment and its history of formation.
- The description for each of the PTypes was reviewed from the legend or other supporting literature.
- An abbreviated code of engineering attributes, named EType (engineering type), was created based on the PType analyses.

A matrix was developed to convert the geologic units (PType) to engineering type (EType) based on:

- Rock Type (sedimentary, igneous, metamorphic);
- Age (Holocene, Holocene-Pleistocene, Pleistocene, Tertiary-Pleistocene, Tertiary or older);
- Degree of Consolidation (unconsolidated, weakly consolidated, moderately consolidated, indurated, deeply weathered, friable);
- Depositional Environment (alluvial, eolian, marine, lacustrine);
- Texture (fine, coarse, undifferentiated);
- Structure (massive, bedded, slide complex, foliated, fractured).