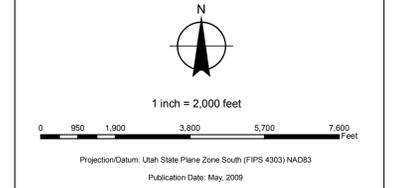


Adverse Construction Condition Piping and Erosion

Utah Geological Survey Special Study 127
Geologic Hazards and
Adverse Construction Conditions
St. George-Hurricane Metropolitan Area
Washington County, Utah, 2008

City of Hurricane
147 N 870 W
Hurricane, UT 84737
GIS



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Description
Piping refers to the subsurface erosion of permeable, fine-grained, unconsolidated or semi-consolidated deposits by percolating ground water (Cooke and Warren, 1973; Costa and Baker, 1981; Black and others, 1999). Piping creates narrow, subterranean conduits that grow both in diameter and length as increasingly more subsurface material is removed and as the cavities trap greater amounts of ground-water flow. Piping eventually leads to caving and collapse of the overlying surficial materials (figure 15), and is an important process in the headward extension of gullies in the arid southwestern United States (Costa and Baker, 1981).

Using This Map
The Piping- and Soil-Erosion-Susceptibility Map (plate 13) shows the location of unconsolidated geologic deposits in the St. George-Hurricane metropolitan area that are susceptible to piping and erosion. The map is intended for general planning purposes to indicate where susceptible soils exist and where special studies may be required. The UGS recommends performing a site-specific geotechnical foundation/geologic-hazards study for all development at all locations in the study area. Site-specific studies can resolve uncertainties inherent in generalized mapping and help ensure safety by identifying the need for special foundation designs or mitigation techniques. The presence of soils susceptible to piping and erosion along with other adverse construction conditions and geologic hazards should be addressed in these investigations. If a potential for piping and erosion is present at a site, appropriate design recommendations should be provided.

See section 7, "Problem Soil and Rock", "Soil Piping and Erosion", in the full report for more detailed information.

Classification:
For a detailed explanation of the contents of this map, contact the Hurricane Planning Department for a copy of Special Study 127

Piping and Erosion
P&ES-Soils susceptible to piping and erosion

- Legend**
- Hurricane City Limits
 - Creek
 - Canal
 - Major Streets
 - Dirt St.
 - State Highway
 - I-15
 - Ramp
 - RCDR Babylon Section
 - Parcels
 - Virgin River

Map Sources:
Parcels, Hurricane GIS Dept. Modified from Washington County GIS data downloaded Feb., 2009.
Streets, Hurricane City GIS Dept. Modified from Washington County GIS data downloaded Feb., 2009.
Aerial, USDA, National Agriculture Imagery Program (NAIP) 2006. Distributed by the Utah AGRC and reprojected to Utah State Plane, South (FIPS 4303), NAD 83 (CONUS), Survey Feet from the original. SID source file.