

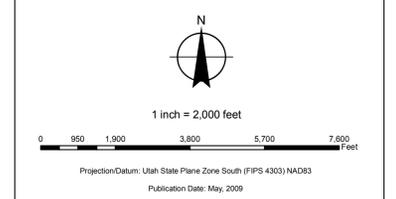
Adverse Construction Condition Expansive Rock & Soil

UTAH
DNR
DEPARTMENT OF
NATURAL RESOURCES

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
Expansive soil and rock increase in volume as they get wet, and shrink as they dry out. Expansive soil and rock contain a significant percentage of clay minerals that can absorb water directly into their crystal structure when wetted. Soils are classified on the basis of their expansive characteristics and potential for volumetric change into three shrink/swell-susceptibility categories.

Using This Map
The Expansive-soil- and rock-susceptibility map shows the location of known or suspected expansive soil and rock in the St. George-Hurricane metropolitan area. The map is intended for general planning purposes to indicate where expansive soil and rock conditions may exist and 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 and severity of expansive soil and rock along with other adverse construction conditions and geologic hazards should be addressed in these investigations. If expansive soil or rock is present at a site, appropriate design recommendations should be provided.

See section 7, "Problem Soil and Rock", "Expansive Soil and Rock", 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

- ESH-Soils with high susceptibility for expansion
- ESM-Soils with moderate susceptibility for expansion
- ESL-Soils with low susceptibility for expansion
- ERH-Bedrock units with high shrink/swell susceptibility, "Blue Clay"
- ERM-Bedrock units with moderate shrink/swell susceptibility
- ERL-Bedrock units with low shrink/swell susceptibility
- CHESR-Concealed area of highly expansive soil or rock

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.