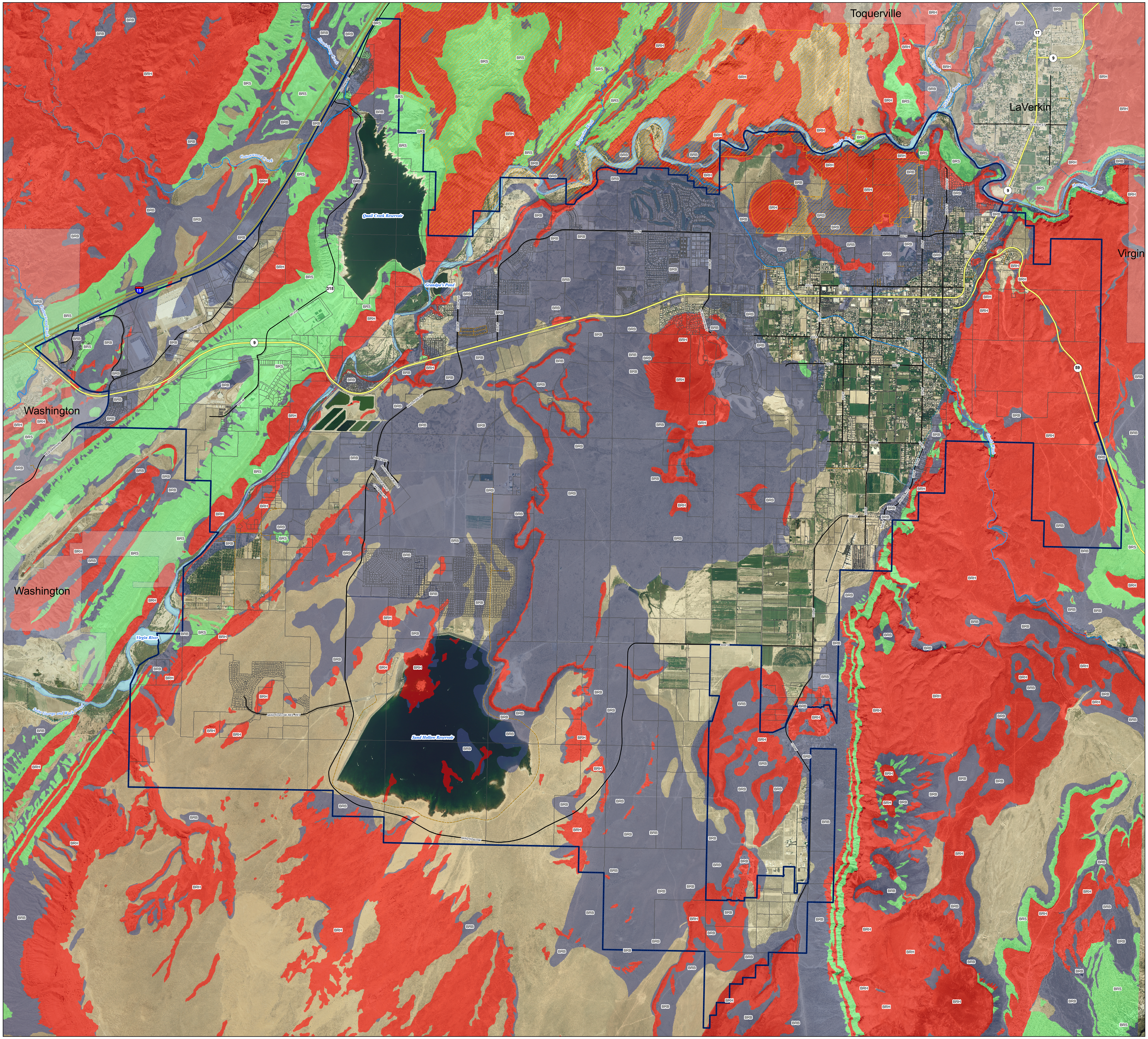

Adverse Construction Condition Shallow Bedrock

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

N

1 inch = 2,000 feet

0 950 1,900 3,800 5,700 7,600 Feet

Projection/Datum: Utah State Plane Zone South (FIPS 4303) NAD83

Publication Date: May, 2009

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Description

Bedrock crops out at the ground surface or is present in the shallow subsurface (<10 ft) over much of the St. George–Hurricane metropolitan area making excavations for basements, foundations, underground utilities, and road cuts difficult in many areas (figure 9). Bedrock in the study area ranges from hard, resistant units that may require blasting to softer, less resistant units that typically can be excavated without or with only minimal blasting.

Using This Map

The Shallow-Bedrock-Susceptibility Map (plate 10) shows locations where bedrock crops out at the ground surface or is present in the shallow subsurface in the St. George–Hurricane metropolitan area. The map is intended for general planning purposes to indicate where adverse bedrock 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 bedrock conditions along with other adverse construction conditions and geologic hazards should be addressed in these investigations. If shallow bedrock is present at a site, appropriate design recommendations should be provided. Where onsite wastewater disposal systems are planned, system installation must meet the requirements of Utah Department of Environmental Quality Rule R317-4-5, Soil and Ground Water Requirements (Utah Department of Environmental Quality, 2006).

See section 7, "Problem Soil and Rock", "Shallow Bedrock", 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

- BRH-Hard: Areas where generally hard and resistant bedrock visible at ground surface
- BRS-Soft: Areas where less resistant bedrock visible at ground surface
- BRB-Buried: Areas where depth to bedrock is generally ≤10 feet beneath soil cover

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.