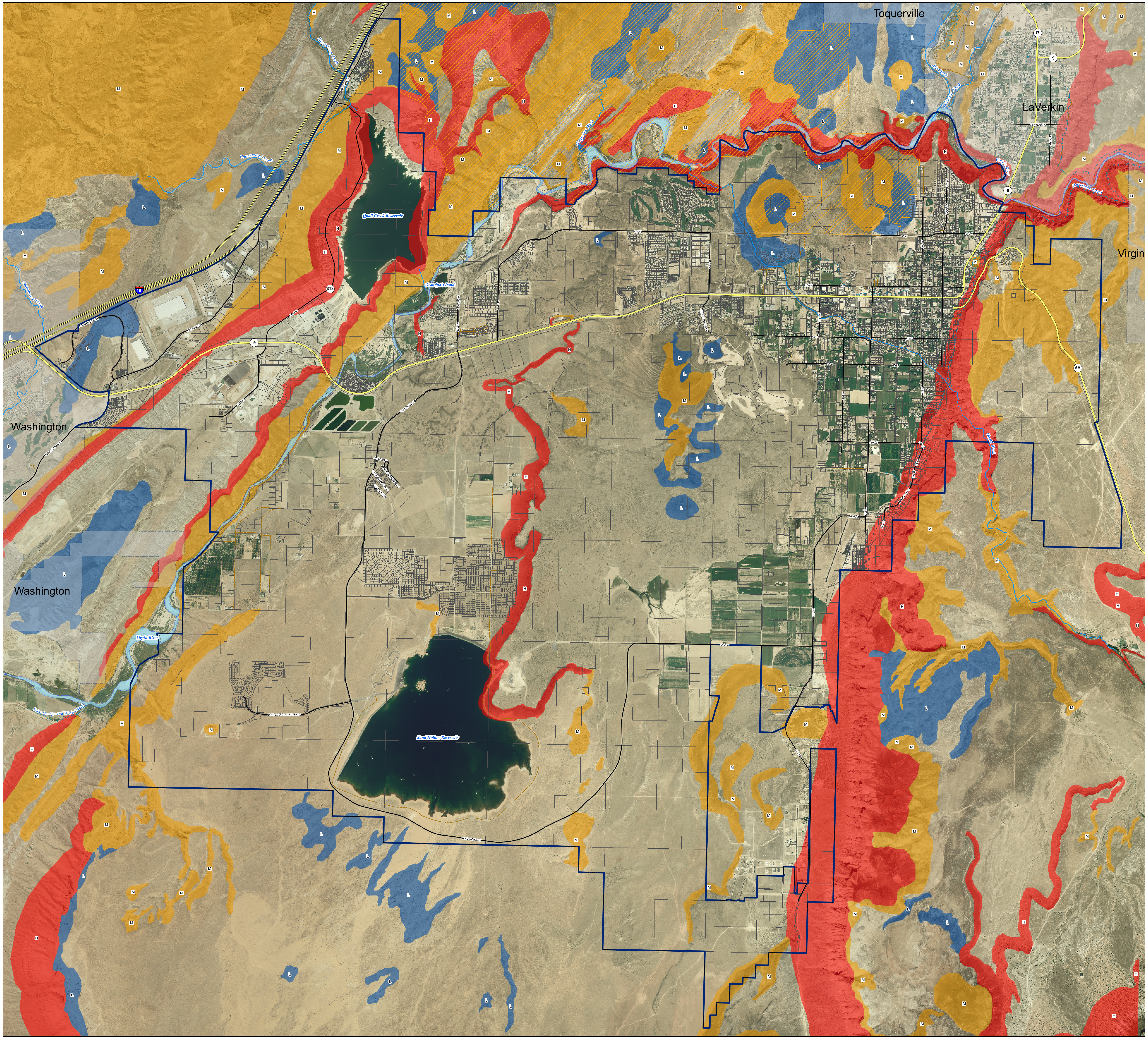

Geologic Hazard
Rock- Fall Hazard

Utah Geological Survey Special Study 127
Geologic Hazards and
Adverse Construction Conditions

St. George-Hurricane Metropolitan Area
Washington County, Utah, 2008

City of Hurricane
GIS

147 N 870 W
Hurricane, UT 84737

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
Rock fall is the most common slope-failure type in the study area. The combination of steep slopes capped by well-jointed, resistant bedrock formations such as the Shinarump Member of the Chinle Formation and numerous Quaternary basalt flows, provide ample opportunity to generate rock falls.

Using This Map
The Rock-Fall-Hazard Map shows areas of relative rock-fall hazard in the St. George–Hurricane metropolitan area where site-specific hazard studies are recommended prior to construction (see table 1 the report). These studies can resolve uncertainties inherent in generalized hazard mapping and help ensure safety by identifying the need for rock-fall-resistant design or mitigation. For most areas, site-specific assessment may only require a field geologic evaluation to determine if a rock-fall source is present. However, if a source is identified, additional work to adequately assess the hazard is needed. Rock-fall sources should be evaluated for the following parameters: rock type, joints, fractures, bedding planes, and potential clast size. Slopes below rock sources should be evaluated for slope angle, aspect, substrate, surface roughness, vegetation, and distribution, size range, amount of embedding, and weathering of rock-fall boulders. In addition, evaluation of the runout zone below a source can be estimated using a simple 2-dimensional model such as CRSP. This map does not consider rock-fall hazards caused by cuts, fills, or other alterations to the natural terrain.

See section 5, "Rock-Fall Hazard", 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

Rockfall

- H - High rock-fall-hazard areas
- M - Moderate rock-fall-hazard areas
- L - Low rock-fall-hazard areas

Legend

- Hurricane City Limits
- Creek
- Canal
- Major Streets
- Dirt St.
- State Highway
- I-15
- Ramp
- RCDR Babylon Section
- Parcles
- 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.