NEVADA BUREAU OF MINES AND GEOLOGY
ENVIRONMENTAL SERIES ✧ WASHOE LAKE AREA

PREPARED IN COOPERATION WITH THE U. S. GEOLOGICAL SURVEY

WASHOE CITY FOLIO
GEOLOGIC HAZARDS MAP

5An

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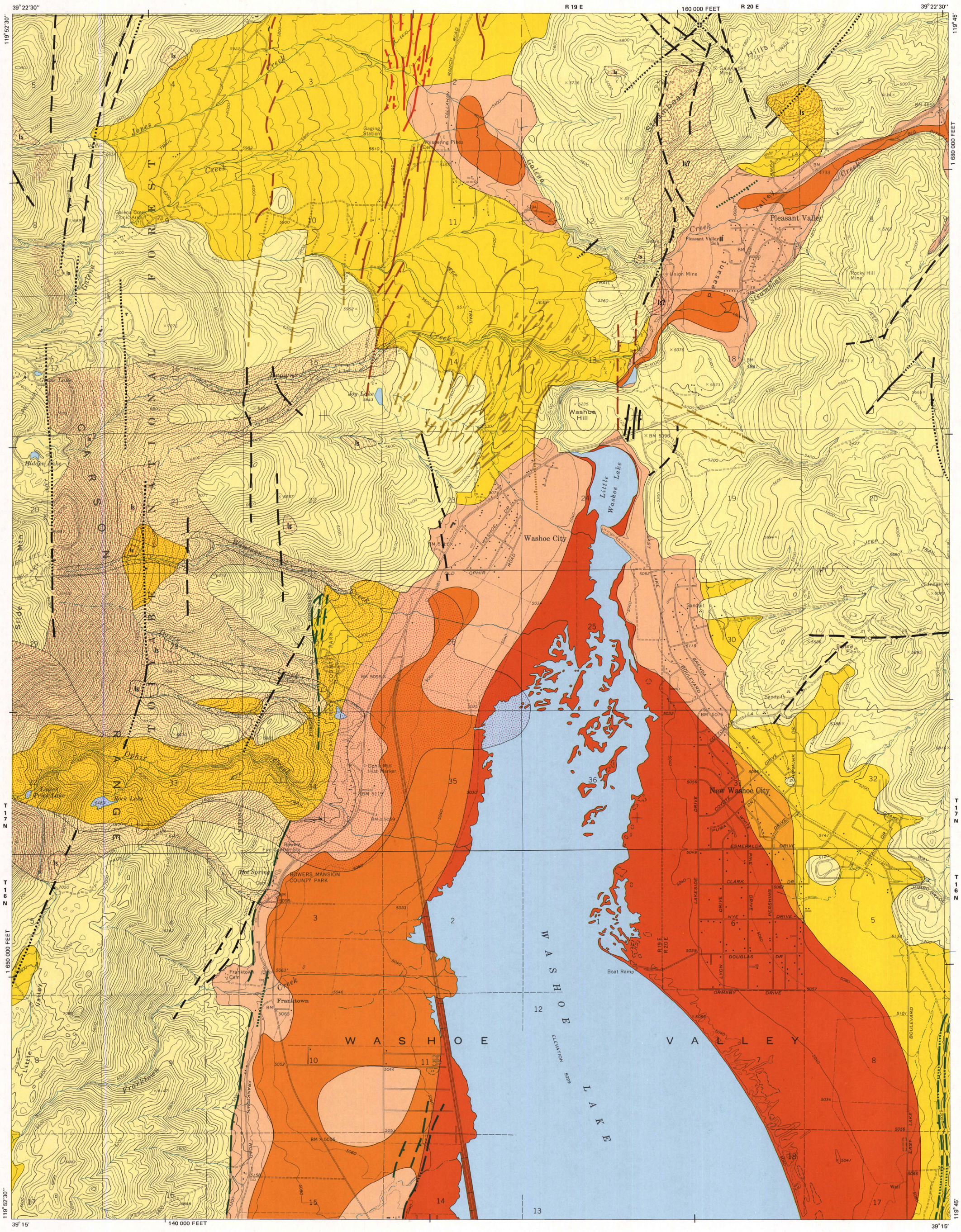

EARTHQUAKE SHAKING

INCREASING INTENSITY OF SHAKING AND POTENTIAL HAZARD
Probably about 3 units of Mercalli intensity scale from Zone E to Zone A

A Greatest severity of shaking. Underlain largely by unconsolidated lake deposits of fine-grained sand, silt, and clay. Depth to ground water increases from the surface at Washoe Lake to generally less than 10 m (33 ft) away from lake.

B Moderate severity of shaking. Underlain largely by unconsolidated alluvial deposits of sand and gravel. Depth to ground water less than about 1 m (3 ft).

C Moderate severity of shaking. Underlain largely by unconsolidated lake deposits of fine-grained sand, silt, and clay. Depth to ground water greater than 10 m (33 ft).

D Moderate severity of shaking. Underlain largely by unconsolidated alluvial deposits of sand and gravel. Depth to ground water greater than 10 m (33 ft).

F Variable severity of shaking. Underlain largely by unconsolidated alluvial deposits of sand and gravel. Depth to ground water increases from about 1 m (3 ft) near lake to about 10 m (33 ft) adjacent to zones D and E.

E Least severity of shaking. Underlain by bedrock.

Note 1: Shaking zones do not portray the effects of ground motion attenuation with increasing distance from the earthquake source.
Note 2: The contact between units A and C and between units B and F is based on the water table measured in the fall of 1974 (Hydrologic Map, this Folio); the exact location of boundaries will vary with the season and climatic fluctuations.

GROUND RUPTURE ALONG FAULTS

INCREASING POTENTIAL HAZARD

Ground rupture along faults is most likely along preexisting faults, in particular along those that have moved most recently. Thus the ground rupture hazard is ranked by age of most recent movement.

Last movement probably less than 10,000 years ago; possibly less than a few thousand years ago.

Last movement probably less than 50,000-150,000 years ago; possibly less than 10,000 years ago.

Last movement probably less than 800,000 years ago; possibly less than 50,000-150,000 years ago.

Age of last movement not known with certainty; probably more than 50,000-150,000 years; less than 12 million years ago and probably no more than a few million years ago.

Last movement probably less than 12 million years ago. No evidence of recent movement.

Solid: location definite; dashed: location inferred; dotted: location concealed; crosses: younger material is not faulted but has been deposited against fault scarp, or erosion has occurred along fault. Ball on downthrown side.

ROCKFALL AVALANCHES AND ASSOCIATED DEBRIS FLOWS

INCREASING POTENTIAL HAZARD

Sudden, rapid, down-valley movement of large quantities of rock and soil debris may occur by rockfall avalanche and debris flow. Many such events from Slide Mountain and vicinity probably have been triggered by earthquakes, but others may have resulted from saturation of accumulated debris on slopes. Hazard results from impact or inundation of debris. Within the designated hazard areas the upper ends of canyons near the steep slopes of Slide Mountain are most likely to be affected, though future rockfall avalanches may well extend far down valley.

Most probable inundation; mapping criteria discussed in folio text.

Maximum expectable inundation; mapping criteria discussed in folio text.

Source of rockfall avalanches; also subject to rockfalls and small landslides.

LANDSLIDES

Movement of dormant landslides may be activated by earthquake shaking, abnormally high precipitation, earth work, or changes in drainage and subsurface water conditions accompanying development.

ls Ground subject to failure by landsliding; consists of mapped landslide deposits.

ls? Ground possibly subject to failure by landsliding; consists of areas of questionable landslide origin.

In addition to the areas designated, landslides too small to show on the map are common along incised streams in the hills on both sides of Washoe Valley.

R. W. Tabor, S. Ellen, and M. M. Clark, 1978

U. S. GEOLOGICAL SURVEY

Scale 1:24,000

0 0.5 1 KILOMETER
0 1000 METERS
0 0.5 1 MILE
0 2000 4000 FEET

CONTOUR INTERVAL 40 FEET
DOTTED LINES ARE 20-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

Topographic base from U. S. Geological Survey Washoe City 7½' quadrangle, 1968

Cartography by Susan L. Nichols

NEVADA BUREAU OF MINES AND GEOLOGY
UNIVERSITY OF NEVADA
RENO, NEVADA 89557
ORDER MAP NO. 5An – [redacted]