

**EMPLOYMENT**

- 1997 - present Principal, Tubbs Geosciences (Kirkland WA)  
1980 - 1997 Senior Geologist and Associate, GeoEngineers (Redmond WA)  
1978 - 1980 Project and Senior Geologist, Roger Lowe Associates (Bellevue WA)  
1976 - 1978 Assistant Professor, Dept. of Geology, Univ. of Kansas (Lawrence KS)  
1975 - 1976 Visiting Assistant Professor, Dept. of Geology and Geological Engineering,  
Michigan Tech. Univ. (Houghton MI)

**EDUCATION**

- Ph.D., Geology, University of Washington, 1975  
M.S., Geology, University of Washington, 1971  
B.S., Geology, University of Puget Sound, 1969

**REGISTRATION**

- Licensed Geologist and Engineering Geologist, Washington  
Registered Geologist with Certification in Engineering Geology, Oregon

**AFFILIATIONS**

- Association of Engineering Geologists  
Geological Society of America

**PUBLICATIONS**

- (with Laprade, William T.), 2008, Landslide mapping in Seattle, Washington *in* Baum, R.L. et al. Landslides and Engineering Geology of the Seattle, Washington, Area: Geological Society of America Reviews in Engineering Geology, v. XX, p. 37 - 54
- (with Tuttle, J.K. and Koloski, Jon), 2003, Mitigation of Landslide Hazards along Puget Sound Shorlines in Abstracts with Programs, 2003 Annual Meeting, Geological Society of America
- (with Clevenger, W.R. and Lindsay, C.S.), 1998, Estimating Changes in Water and Sediment Budgets for Developing Watersheds: a Case Study *in* Program with Abstracts, 41st Annual Meeting, Association of Engineering Geologists
- (with Curran, J. H. and Watkins, M.D.), 1994, Application of the Universal Soil Loss Equation in Estimating Relative Sediment Yields Associated with Urbanization *in* Abstracts with Programs, 1994 Annual Meeting, Geological Society of America
- (with Koloski, J. W., and Schwarz, S.D.), 1989, Geotechnical Properties of Geologic Materials *in* Engineering Geology in Washington, Richard W. Galster, Editor: Washington Division of Geology and Earth Resources Bulletin

- (with Dunne, Thomas, et al.), 1981, Geologic and Geomorphic Implications for Gravel Supply *in* Proceedings of the Salmon Spawning Conference, John J. Cassidy, editor: Washington Water Research Center
- (with Fulmer, C. V., et al.), 1978, Sensitive Areas Map Folio: King County Department of Planning and Community Development
- (with Dunne, Thomas), 1977, Geologic Hazards in Seattle: Geologic Society of America Field Guide
- 1974, Landslides in Seattle: Washington Division of Geology and Earth Resources Information Circular 52
- 1974, Landslides and associated damage during early 1972 in part of west-central King County, Washington: U. S. Geological Survey Miscellaneous Geological Investigations Map I-852B

## **EXPERIENCE**

Donald W. Tubbs has over 35 years experience in engineering geology, applied geomorphology, geologic hazards evaluation, surface water hydrology and groundwater hydrology. His 1975 Ph.D. dissertation, "Causes, Mechanisms and Prediction of Landsliding in Seattle" was one of the early geologic hazards studies in western Washington. He has held faculty positions at Michigan Technological University, the University of Kansas and the University of Washington, teaching courses in hydrogeology, environmental geology and engineering geology, and has lectured on these subjects at conferences, workshops and seminars presented by various professional organizations and public agencies.

Dr. Tubbs has been the principal investigator and project manager for studies involving material resources, surface water and groundwater hydrology, erosion and sediment transport rates, foundation and slope-stability problems, and landslide-hazards mapping. His consulting experience includes mapping of geologic hazards for King and Snohomish Counties, and for the Cities of Edmonds, Lake Forest Park, Redmond, Renton and Tukwila, together with numerous environmental impact statements and site-specific investigations for private sector clients. Relevant project experience includes:

### **Geologic Hazards Evaluation for City of Redmond**

Redmond, Washington

Studied landslide, erosion and seismic hazards, and aquifer recharge within Redmond as a basis for the City's Sensitive Areas Ordinance. Developed criteria and compiled maps of critical areas as required by the Growth Management Act.

### **Geologic Hazards Evaluation for City of Tukwila**

Tukwila, Washington

Project manager for a study of landslide, erosion and seismic hazards within Tukwila to form the basis for the City's Sensitive Areas Ordinance. Provided information regarding the geographic distribution of geologic hazard and resource lands areas and recommendations for geotechnical investigations and for requirements relative to development in these areas.

**Sensitive Areas Ordinance Review the City of Normandy Park**

Normandy Park, Washington

Reviewed technical aspects of the SAO and development standards, and provided recommendations for changes to provide a stronger technical basis for the ordinance.

**Geologic Hazards Evaluation for Snohomish County**

Snohomish County, Washington,

Reviewed geologic conditions in proposed urban growth areas within Snohomish County, developed criteria for identifying geologically hazardous areas, delineated those areas on maps, and provided recommendations for regulation of development within those areas.

**Philippines Environmental Initiative Project for Northwest Environmental Business Council**

Philippines

As Technical Director of this two year project, Dr. Tubbs assisted NEBC member firms in understanding and targeting environmental issues in the Philippines. Activities included participating in a seminar on Philippine watershed issues, meetings with government agencies and private companies to identify pertinent issues, identifying data sources, compiling technical and educational information, and developing an informational website.

**Seminar on GIS applications in Land Use Planning for Bukidnon Provincial Government**

Philippines

Together with Schlosser Geographic Systems Inc., Dr. Tubbs presented a seminar on GIS applications in land use planning for the Planning Department of Bukidnon Province, Mindanao, Philippines. The seminar included demonstration of various ways to view and analyze GIS data using the Planning Department's software and local data sets.

**Aggregate Resource Evaluation of the Thorndyke Mineral Resource Area for Fred Hill Materials**

Jefferson County, Washington

Review of surface geologic mapping and subsurface exploration data of a large proposed Mineral Resource Area in eastern Jefferson County. Services included evaluation of potential impacts to surface water features, shallow and deep groundwater aquifers, and consequent effects on water quantities and quality in nearby streams and wells. Findings were presented in report format and testimony at public hearings, and provided input to the County's Final Supplemental Environmental Impact Statement.

**Geologic and Hydrogeologic Evaluation of MPD Site for Grand Ridge Partners**

King County, Washington

This EIS study used airphoto interpretation, surface reconnaissance and subsurface exploration to evaluate coal mine, landslide, erosion and seismic hazards within the 2200-acre Grand Ridge MPD (Master Plan Development) site. Analysis of geomorphological processes relevant to site planning included downstream impacts on stream systems, and water budget analysis of potential changes in surface water runoff and groundwater recharge resulting from the development. Follow-up work during site development included evaluation of groundwater impacts to nearby wells and replacement of monitoring wells.

**Northridge UPD Project EIS for Quadrant Corporation**

King County, Washington

Geotechnical and hydrologic investigation of a 1,500-acre UPD site, including identification of geologically hazardous and aquifer recharge areas, evaluation of the potential impacts of site development and recommendations for mitigation of those impacts. The results of the investigation were incorporated into the Environmental Impact Statement for the project.

**Blakely Ridge UPD Project EIS for Port Blakely Partnership**

King County, Washington

Geotechnical and hydrologic investigation for the over 1,000-acre UPD (Urban Planned Development) project. The report provided the basis for the earth and water portions of the Environmental Impact Statement and for project design. Subsequent work included evaluation of geologic hazards along two stormwater discharge pipeline alignments between the site and the Snoqualmie River, and geologic input to the design of retaining walls for off-site, project-related road improvements.

**Evaluation of Landslide Hazards for the Bayshore, Sonata and Alki Condominium Associations**

Seattle, Washington

Included review of existing information, field reconnaissance of landsliding in the 1500 block of Alki Avenue Southwest and preliminary evaluation of possible options for mitigation. Our findings were presented at a meeting of the condominium owners and residents and our conclusions and recommendations were summarized in a written report.

**Landslide Hazards Evaluation for Schrod-Mar, Inc.**

King County, Washington

Surface and subsurface investigation relative to expansion of a gravel mine near the community of Kanasket. The surface mining operation is located near the toe of an ancient landslide complex. The primary issues involved possible effects of the proposed expansion on groundwater supplies and on the stability of the landslide. Services included surface reconnaissance, subsurface exploration and recommendations for a monitoring program and mitigation plan. Follow-up work continues and includes monitoring for possible ground movements using high-precision GPS survey techniques.

**Gibraltar Road Landslide Study for Skagit County**

Fidalgo Island, Washington

Investigated a large landslide involving some 30 homes and a county road to evaluate the causes of the landslide and to develop recommendations for possible mitigation.

**Meadowdale Landslide Complex for City of Edmonds**

Edmonds, Washington

Investigation of a large landslide complex to identify landslide processes and hazards, and to evaluate the effect of construction of storm and sanitary sewers on landslide hydrology and stability.

**Hydrogeologic Services for Skagit County**

Fidalgo Island, Washington

Reviewed available geologic and hydrogeologic information regarding proposed development sites and adjacent areas. Performed water budget analysis to evaluate potential impacts to the stability of the nearby bluffs and to the water quantity and quality of the community water system. Provided recommendations to mitigate potential problems from water runoff and on-site infiltration.

**Hydrogeologic Drainage Basin Study for King County**

King County, Washington

This geotechnical evaluation of the McAleer Creek drainage basin was performed in conjunction with a hydrologic study of the basin by Kramer Chin and Mayo. Services included identifying the character and distribution of soils and classification of those materials relative to rates of runoff and infiltration, erosion problems, water quality and slope stability.

**Sediment Transport Study for the City of Bellevue**

King County, Washington.

Evaluated sediment sources, transportation and deposition within the Coal Creek watershed in conjunction with a hydraulic analysis within the delta area by Northwest Hydraulic Consultants. The purposes of the study were to provide a basis for responding to local flooding that has occurred within the delta area as a result of deposition within the stream channel, and to evaluate the relative effectiveness of several proposed dredging options.

**Sediment Transport Study for Puget Sound Power & Light Company**

King and Pierce Counties, Washington

Evaluated the effects of changes in flow regime on sediment transport in the White River downstream of Mud Mountain Dam.

**Pipeline River Crossing Scour Studies for the Northern Tier Pipeline Company**

Washington State

Investigation of potential stream erosion and sedimentation at proposed pipeline crossings of numerous streams in Washington State, and evaluation of potential fisheries impacts resulting from downstream deposition of suspended sediment generated during pipeline construction.

**Downstream Sedimentation Study for the City of Tacoma**

King County, Washington

Evaluation and prediction of potential sediment transport and deposition resulting construction of open trench pipeline river crossings. Included modeling of suspended sediment transportation and deposition, and comparison of model predictions to field observations.