Oregon State Board of Geologist Examiners

Fact Sheet:
Guideline for Preparing Engineering Geologic Reports

PRELIMINARY DRAFT
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INTRODUCTION

The Oregon State Board of Geologist Examiners (OSBGE, or the Board) was created by Legislative act in 1977 to safeguard the health and welfare and property of the people of Oregon. These safeguards are in the fields of geology as related to engineering, ground water, land use planning, mineral exploration and development, geologic hazards, the further development of the science of geology, and other geologic matters of concern to the people of the state [ORS 672.515]. The mission of the OSBGE is to help assure the safety, health, and welfare of Oregonians with regard to the public practice of geology through:

1. Licensing of those engaged in the public practice of geology;
2. Response to complaints from the public and members of the profession;
3. Public education directed at appropriate regulatory communities;
4. Cooperation with closely related Boards and Commissions;
5. Attention to ethics; and
6. Systematic outreach to counties, cities, and registrants.

OSBGE has prepared this fact sheet to inform and educate the public, governmental agencies, private organizations, and the registrants themselves regarding the practice of professional geology and engineering geology in the State of Oregon.

WHAT IS GEOLOGY, AND WHY IS IT IMPORTANT TO SOCIETY?

The science of geology is commonly defined as the study of the physical structure and substance of the earth, its history, and the processes which act on it. In ORS 672.505(6) "Geology" is defined as:

a) That science that treats of the earth in general;
b) Investigation of the earth's crust and the rocks and other materials that compose it; and
c) The applied science of utilizing knowledge of the earth and its constituent rocks, minerals, liquids, gases and other materials for the benefit of humanity.

The application of geology makes a significant contribution to society, and encompasses a wide range of areas of practice that include identification and mitigation of geological hazards (such as landslides and flooding, earthquake and volcanic hazards), evaluation of the geologic conditions for land use and site development, review of timber harvest plans, assessment of groundwater resources and contamination, and mineral resource exploration, to name a few. As an indication of the societal importance of geology, the Oregon Department of Transportation reported that approximately $150 million was spent for landslide related road repair as a result of severe storm events that occurred during 1996. Tragically, five persons lost their lives as a result of landslides and flooding during these storms.

[possibly include photos of landslide and flood damage from these storms be included in the fact sheet]

LICENSING OF GEOLOGISTS AS PROFESSIONALS

ORS 672.505(7) defines the "Public practice of geology" as the performance for another of geological service or work, such as consultation, investigation, surveys, evaluation, planning, mapping and inspection of geological conditions, and review of geological work, that is related to public welfare or safeguarding of life, health, property and the environment. The Oregon Legislature requires that any person engaged in the public practice of geology shall be a registered geologist, a registered certified specialty geologist, or a subordinate under the direction (termed responsible charge) of either category of registrant. Persons who conduct the public practice of geology without valid and current registration with OSBGE may be subject to civil or criminal penalties [ORS 672.690 and 672.991(3)].

There are different areas of practice for professional geologists because of the breadth and scope of this scientific discipline. A Registered Geologist (RG) in Oregon must have completed an approved college or university curriculum of geology courses, worked under the responsible charge of a registered geologist for 5 years, and passed the National Association of State Boards of Geology (ASBOG) fundamental and practical examinations. The Oregon Legislature has made provision for the certification in the practice of a specialty field of geology, and currently the only specialty certification recognized by OSBGE is engineering geology. Oregon statutes define engineering geology as the application of geologic data, principles and interpretation to naturally occurring materials so that geologic factors affecting planning, design, construction and maintenance of civil engineering works are properly recognized and utilized. Certification as an engineering geologist requires that the applicant be a registered geologist (RG), have worked for a specified period under the responsible charge of a Certified Engineering Geologist (CEG), and have passed a written examination for certification as an engineering geologist. A geologist certified by OSBGE as an engineering geologist is referred to as a certified engineering geologist (CEG).

A geologist or engineering geologist licensed and practicing in Oregon must follow a code of professional conduct, which enumerates the registrant's responsibility to the profession, the employer, the public at large, and the Board. Any report, plans, or drawings produced by a licensed geologist or engineering geologist must be signed and have a facsimile of a registrant's seal (stamp) affixed to final products created in the public practice of geology. OAR 809-055 describes the process for filing a complaint with OSBGE against a registrant or a person who conducts the public practice of geology without valid and current registration.

THE ROLE OF THE ENGINEERING GEOLOGIST

Engineering geologists make a significant contribution to safe development and use of the land, and their contribution to protecting public health, safety, and welfare is the primary reason for licensing of professional geologists. Engineering geologists apply geologic principles to the safe development and grading of land, building of structures, evaluation and mitigation of geologic hazards, construction of underground utilities and tunnels, and a host of other public and private works necessary for maintaining and improving the quality of life for the citizens of Oregon.

Engineering geologists can provide assistance to homeowners, developers, design engineers, contractors, and public works agencies in a diversity of situations, including:

- Site development, including investigation, planning and inspection of cuts, fills, and grading in soil and rock;
- Investigation of landslides, slope stability, poor soil conditions, and development of mitigation approaches;
- Assessment of regional and local seismicity and earthquake hazards and the characteristics and activity of nearby faults;
- Characterization of geologic conditions for design of foundation systems, and underground openings and tunnels;
- Investigation of the factors governing coastal and stream erosion and recommendations for mitigation;
- Evaluation of cost estimation for damage and repair following natural disasters;
- Advice on regulations governing related land use issues, and assistance with permitting from governmental agencies.

GUIDELINES FOR ENGINEERING GEOLOGIC REPORTS

OSBGE has prepared guidelines to provide direction for the preparation, use, and review of engineering geologic reports prepared by certified engineering geologists in the state of Oregon. These guidelines provide a broad outline of items that should be considered during the preparation of an engineering geologic report, and if appropriate, included in the report. The engineering geologic report should include sufficient data, analysis, and interpretation regarding geologic materials, structure, processes, and history to support conclusions, potential risks, and recommendations regarding the proposed activity, modification, or use of a site.

End users and reviewers of engineering geologic reports can use these guidelines in their reading, review, and utilization of a particular report for their proposed project. However, these guidelines are not intended as a "checklist" for the contents of any particular engineering geologic report. The actual scope of services and topics presented in a particular engineering geologic report will vary depending on the level of detail, accuracy, and complexity needed for the intended project. Large and complex projects may be expected to require a more comprehensive geologic investigation and report than smaller projects located in a less complex geologic setting. Ultimately, good communication between the engineering geologist, client or end user, and reviewer of the geologic work is crucial to a successful project.

For more information about OSBGE, visit the Board's website:
http://www.oregon.gov/OSBGE/Pages/index.aspx.

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