

Engineering Geologist Series

California State Personnel Board Specification

Series established September 24, 2002

Scope

This series specification describes three levels of Engineering Geologists used to perform, plan, organize, and direct difficult professional engineering geological work, studies, and investigations; to interpret the results in terms of engineering significance; and to do other related work.

Schem Code	Class Code	Class
HT65	3756	Engineering Geologist
HT40	3751	Senior Engineering Geologist
HT30	3748	Supervising Engineering Geologist

Engineering Geologist Series Specification - Class Titles and Codes

Definition of Series

The Engineering Geologist classification series is used statewide. Classes in this series deal with the evaluation of geologic work plans, recommend geologic investigative techniques, oversee or conduct field activities, and review and analyze geologic reports. Engineering Geologists typically work with engineers, environmental specialists, and seismologists on issues related to groundwater, construction, mineral resource, and seismic safety issues. Incumbents locate, identify, classify, analyze, and submit recommendations regarding the nature, extent, and occurrence of groundwater, rock, and other earth materials; prepare geologic profiles, cross sections, structure maps, charts, and graphs; prepare geological reports pertinent to the design, construction, maintenance, and ultimate use of engineering structures, and to ground water development and utilization. Incumbents advise and consult with Federal and local agencies and are often involved in extensive public and professional contact.

In an environmental setting incumbents perform geologic engineering duties related to implementation of Federal and State laws related to environmental programs; may be involved in monitoring municipal and hazardous waste disposal facilities; conduct or supervise investigations, inspections, studies, and review and prepare reports. Incumbents prepare permits and may be involved in license enforcement actions. Typical tasks may include evaluation of stream alteration and flow, groundwater discharges to surface water, erosion control, and land stabilization.

In a geo-technical setting incumbents perform engineering geologic duties related to project planning or site specific design, construction and maintenance of critical structures, lifelines, and essential services buildings, including dams, water conveyance facilities, tunnels, highways, bridges, schools, and hospitals. Incumbents evaluate geologic and mineralogical hazards such as faulting, earthquakes, landslides, collapsible and expansive soils, and slope stability. Incumbents use computers extensively to perform calculations and to prepare reports and graphics.

Entry Level

Entry to the series is typically from outside of State service and to the Engineering Geologist level.

Factors Affecting Position Allocation

Complexity of assigned work; independence of action; consequence of error; impact of decisions on statewide programs; extent of supervisory and management responsibility; reporting relationships; extent of delegation from higher levels; and degree of independent decision-making responsibility.

Definition of Levels

Engineering Geologist

This is the entry, working, and journey level in the series. Incumbents move through the ranges as competency and performance increases.

Range A is the entry and first working level in the class. Incumbents work under close supervision and perform less difficult engineering geologic work.

Range B is the intermediate working level. Under general supervision, incumbents perform professional engineering geologic work of average difficulty.

Range C is the full (nonregistered) journey level. Under direction, incumbents perform difficult professional engineering geologic work. Incumbents may act as project managers on more complex projects or be assigned staff specialist responsibilities in support of project managers or other technical or programmatic functions. This level may also be used in a lead capacity over other Engineering Geologists or other professional or technical employees.

Range D is the full (registered) journey level. Under direction, incumbents perform difficult engineering geologic work. Incumbents may act as project managers on more complex projects or be assigned technical staff responsibilities in support of project managers or other technical or programmatic functions. This level may be used in a lead capacity over other Engineering Geologists or other professional or technical employees. Range D requires possession of a valid certificate of registration as a geologist or geophysicist issued by the California Board of Geologists and Geophysicists. Range D incumbents act in a responsible charge capacity.

Senior Engineering Geologist

The Senior Engineering Geologist Supervisor is either (1) a first-line unit supervisor; or (2) a nonsupervisory staff specialist assigned to perform the most complex and technical engineering geologic assignments. The senior level is the first level to which administrative responsibility is assigned.

Supervising Engineering Geologist

The Supervising Engineering Geologist is the full supervisory level in the series. Incumbents supervise two or more sections through subordinate level supervisors. Incumbents plan, organize, and direct geological work; direct the utilization of personnel, instruction of supervisory technical personnel, and the coordination of their activity with other organizational components.

Minimum Qualifications

All Levels:

Education: Equivalent to graduation from college with major work in geology, engineering geology, or a closely related field that includes coursework in geology. (Additional qualifying experience may be substituted for the required education on a year-for-year basis.) (Registration as a senior in a recognized institution will admit applicants to the Engineering Geologist examination, but they must produce evidence of graduation or its equivalent before they can be considered eligible for appointment.)

Senior Engineering Geologist and Above

Possession of a valid certificate of registration as a geologist or geophysicist issued by the California Board of Geologists and Geophysicists is required for appointment to the Senior Engineering Geologist level and above.

Senior Engineering Geologist

EITHER I

Experience: Two years of experience performing the duties of an Engineering Geologist, Range D, in the California state service.

OR II

Experience: Five years of professional engineering geological experience involving the performance of increasingly responsible duties, at least two years of which shall have been comparable in level and responsibility to an Engineering Geologist, Range D, in the California state service. (A master's degree with major work in geology or engineering geology may be substituted for one year of the required experience. Possession of a doctorate degree in one of the fields identified above may be substituted for two years of the general experience.)

Supervising Engineering Geologist

EITHER I

Experience: Two years of experience performing the duties of a Senior Engineering Geologist in the California state service.

OR II

Experience: Six years of professional engineering geological experience, at least two years of which shall have been comparable in level and responsibility to that of a Senior Engineering Geologist in the California state service. (A master's degree with major work in geology or engineering geology may be substituted for one year of the required experience. Possession of a doctorate degree in one of the fields identified above may be substituted for two years of the general experience.)

Knowledge and Abilities

Engineering Geologist

Knowledge of: Stratigraphic, structural, historical, and economic geology as related to civil engineering projects; geological processes and survey techniques, equipment, and procedures; fundamental principles of mineralogy, petrography, soil mechanics, and hydrogeology; photogeology, geological mapping and drafting, and the application of geology to engineering problems; grouting methods, techniques, and equipment; geological literature; and subsurface exploration and sampling procedures.

Ability to: Conduct geological and geophysical exploration investigations; conduct independent technical research work; make, record, and evaluate observations on geological engineering problems; make accurate tests, observations, and measurements; analyze situations accurately and take effective action; and prepare and analyze technical reports.

Senior Engineering Geologist

Knowledge of: All of the above, and the principles of effective supervision, personnel management, and budget preparation; the department's Equal Employment Opportunity Program objectives; a supervisor's responsibility for promoting equal opportunity in hiring and employment development and promotion, and for maintaining a work environment free of discrimination and harassment; methods and techniques of effective leadership; and general administrative processes.

Ability to: All of the above, and prepare and analyze technical reports; prepare plans, specifications, and estimates for geological and geophysical exploration; perform independent technical research work and maintain cooperative relationships with those contacted in the work; the ability to delegate work to others, direct the work of others, and motivate others to work effectively; and effectively contribute to the department's Equal Employment Opportunity Program objectives.

Supervising Engineering Geologist

Knowledge of: All of the above, and the principles of fiscal oversight for multiple units, budgeting, labor relations objectives, and other administrative functions; organization and goals and objectives of the organization; principles and practices of policy formulation and development; techniques of motivating and organizing groups; and current methods used to evaluate program effectiveness.

Ability to: All of the above, and direct and organize the work of major programs; perceive alternatives available in the solution of management problems and select effective and realistic courses of action; direct and coordinate the work of others through subordinate supervisors; gain the confidence and support of top level management and develop cooperative working relationships with all levels of government and the public; and effectively contribute to the Department's labor relations objectives.

Additional Desirable Qualifications

All Levels:

Course work in engineering geology; willingness to travel in performing field work throughout the State; course work and/or experience in environmental engineering, water resource management, hydraulics, and/or hydrogeology; and in addition to registration as a geologist, certification as an engineering geologist or hydrogeologist.

Class History

Class	Date Established	Date Revised	Title Changed
Engineering Geologist	09/24/2002	--	--
Senior Engineering Geologist	09/24/2002	--	--
Supervising Engineering Geologist	09/24/2002	--	--
Engineering Geologist Series History - Dates Established, Revised, and Title Changed			

Updated 6/3/2012