

THE CITY OF LOS ANGELES



CIVIL SERVICE COMMISSION

CLASS SPECIFICATION

9/10/99

ENGINEERING GEOLOGIST ASSOCIATE, 7253

Summary of Duties: Performs professional engineering geological investigations and studies in connection with the design and construction of tracts, dams, reservoirs, tank sites, buildings, streets and highways, tunnels, electric power generating plants, transmission towers, distributing stations and other structures; makes precise geological maps; classifies rock and soil samples; investigates water-bearing strata and geothermal prospects, geologic hazards, and technical aspects of legal questions; and does related work.

Distinguishing Features:

Engineering Geologist Associate I is the normal entry level to the class. Employees at this level usually have little, if any, experience or special training. They initially perform the less complex professional geological engineering work under close supervision while learning and assisting in a variety of routine duties. As employees become more experienced, they may work independently and may be responsible for one or more large projects. Positions at this level are three-year temporary training positions under Civil Service Rule 5.30. Employees with two years of full-time paid City experience as an Engineering Geologist Associate I and a bachelor's degree from a recognized college or university in geology or engineering geology will automatically promote to Engineering Geologist Associate II.

Engineering Geologist Associate II performs journey level professional engineering work requiring a working knowledge of geological and geotechnical engineering skills. Individuals at this level usually work independently, receiving instructions in general terms, and may be responsible for one or more major City projects having wide impact and significant cost. Employees may serve as a lead over a small group of lower level employees.

Engineering Geologist Associate III may supervise, or may serve as a lead over a small group of employees, or as a project manager, or as a project geologist involved in work that is technically complex and requires considerable experience, skill and geological engineering knowledge. Two years of full-time paid, professional experience at the level of Engineering Geologist Associate II and registration as a geologist with the California State Board of Registration for Geologists and Geophysicists is required for advancement to this level. Positions in the Department of Water and Power require possession of both Registered Geologist and Engineering Geologist licenses issued by the California State Board of Registration for Geologists and Geophysicists.

Engineering Geologist Associate IV is generally a non-supervisory technical expert, who shall maintain the skills and expertise necessary to remain at this higher pay-grade level. They may conduct extensive research into new technical developments and evaluate their suitability for City use, may prepare standards for technical design, may develop and conduct training for other employees on new procedures and techniques, or may act as an internal consultant to other employees on new technology or very difficult issues. These positions are designated by department

management according to their department's needs. However, some positions in the Department of Water and Power may be designated as supervisory according to the needs of the department. Some positions require registration as a Engineering Geologist with the California State Board of Registration for Geologists and Geophysicists, as determined by department management. Positions in the Department of Water and Power however, require registration as a Registered Geologist and/or Engineering Geologist with the California State Board of Registration for Geologists and Geophysicists, as determined by department management. Advancement to this level requires two years of full-time paid, professional experience at the level of Engineering Geologist III, or four years of full-time paid, professional experience at the level of Engineering Geologist II.

Example of Duties: An Engineering Geologist Associate:

- Performs professional geologic engineering work by assisting in the planning, organizing, and conducting of preliminary and final engineering geological studies and investigations, and providing recommendations on the soundness of locations for new and existing structures and facilities;
- Assists engineering geologists and civil and structural engineers in investigations of geologic hazards such as landslides, slope failures, erosion, faults, fractures, subsidence, and water seepage, and in recommending measures for corrective action;
- Assists in planning and directing exploratory trenching, drilling and sampling operations;
- Logs bore holes and test pits, prepares trench profiles, and takes samples;
- Collects, classifies, and analyzes rock samples using a petrographic microscope to determine mineral content, degree of lithification, percent of water-soluble material, and other characteristics which might affect the stability of a formation;
- Investigates and evaluates the porosity and permeability of waterbearing strata;
- Locates joints, fractures, cracks, slides, settlements, cleavages, porosity, and faults prior to, and during construction of tanks, dams, and reservoirs for water supply;
- Determines causes and effects of erosion and sedimentation of reservoirs, waterways, and other property;
- Determines the age of rock formations by examination of fossils and lithologic evidence;
- Prepares geologic maps of large areas within mountainous regions;
- Assists in the review of tentative tracts and parcel maps, and geotechnical reports prepared by private consultants;
- Provides technical assistance to the City Attorney's Office in the preparation of geologic exhibits for areas of interest to the City, and may perform environmental site assessments on City property where contamination is suspected or has been encountered;
- Complies, collects and interprets data from the field using geological equipment such as a Brunton compass and hand lens, and from unpublished reports, aerial photographs, existing topographic and geological maps and cross sections, test holes, and well logs;
- Notes and locates the sources and occurrences of groundwater, geothermal and other energy sources and determines the volume and suitability of sand and gravel aggregates and other raw materials for use in City construction projects;
- Monitors and observes the construction of foundations for construction projects;
- Reviews current engineering geology literature and attends conferences/meetings to maintain technical competence;
- Confers with City personnel, and other public and private employees on geological matters, and may represent the City as an expert witness;
- Prepares engineering geological reports;
- Prepares face maps during tunneling operations.

May occasionally be assigned to other duties for training purposes or to meet technological changes or emergencies.

Qualifications: Incumbents must have the following knowledges and abilities:

Knowledges of:

- Principles of geological engineering;
- Sources of engineering information;
- Historical and structural geology, petrology, paleontology, stratigraphy, petrography, hydrology, chemistry, and physics;
- Geological surveying and mapping procedures, techniques, and equipment;
- Rock and soil sampling methods;
- Historical geology of Southern California;
- Principles of civil engineering, geotechnical engineering, including drafting and surveying, concrete structures and strength of materials.

The ability to:

- Apply geological knowledge to engineering problems;
- Identify and classify surface and subsurface geological formations;
- Use microscopes, Brunton compass, and drafting and surveying instruments;
- Select and analyze rock and earth samples;
- Locate and trace geological faults and shear zones;
- Read topographic maps and aerial photographs;
- Communicate clearly and effectively both orally and in writing;
- Deal tactfully and effectively with public officials, professional engineers and geologists, fellow City employees, and the public.

Minimum Requirements: Graduation from a recognized four year college or university with a degree in geology or engineering geology.

Persons with disabilities may be able to perform the essential duties of this class with reasonable accommodation. Reasonable accommodation will be evaluated on an individual basis and depend, in part, on the specific requirements for the job, the limitations related to the disability, and the ability of the hiring department to reasonably accommodate the limitation.

Licenses: A valid California driver's license may be required for some positions.

As provided in Civil Service Commission Rule 2.5 and Section 4.55 of the Administrative Code, this specification is descriptive, explanatory and not restrictive. It is not intended to declare what all of the duties, responsibilities, and required qualifications of any position shall be.