
California Special Districts Association

SAMPLE POLICY HANDBOOK

POLICY TITLE: Job Description - Senior Engineer

POLICY NUMBER: 2973

2973.1 General Job Description

Under the direction of the General Manager and the Water Division Manager, and with a minimum of supervision:

- (a) serves as the professional engineering expert for District management staff;
- (b) performs responsible, professional and technical engineering duties that may be difficult and complex, as required for a water system which supplies irrigation, domestic, commercial and industrial users;
- (c) conducts and directs comprehensive civil engineering studies, prepares plans, specifications, reports, contracts, environmental assessments, hydraulic and economic analyses of water systems;
- (d) designs pipelines, canals, pumping facilities, and buildings;
- (e) reviews and coordinates the work of consultants;
- (f) reviews plan proposals from consulting engineers for compliance with District standards and policies;
- (g) supervises the Assistant Engineer;
- (h) performs a variety of duties related to the mapping of District facilities, including the development and maintenance of the District's geographical information system (GIS);
- (i) supervises and performs a variety of duties relating to the drafting of detailed construction drawings and related maps and specifications used in planning, maintenance and construction;
- (j) participates in public meetings to effectively communicate requested information to the Board of Directors and the public; and,
- (k) effectively works as a member of a problem-solving team to resolve, within set time schedules, a variety of engineering and administration tasks in support of the General Manager.

2973.2 Prerequisite Qualifications

2973.2.1 Bachelor's degree (B.S.) in civil engineering from an accredited college or university, and five years of increasingly responsible professional experience in the design, construction, operation and maintenance of treated and irrigation water distribution systems.

2973.2.2 Registration as a Civil Engineer in the State of California.

2973.2.3 Valid California driver license and satisfactory driving record.

2973.3 Basic Work Hours: 8:00 AM to 5:00 PM, Monday through Friday.

2973.4 Compensation Range:

2973.5 Essential Job Duties:

2973.5.1 Task: Prepares calculations and designs for various District facilities; prepares maps, charts, graphs, and plans; drafts detailed drawings of structures and installations involved in potable and non-potable water distribution systems; and, checks and updates as-built drawings.

Physical Demand: Sitting, close vision; use of hands to finger, handle, or feel objects, tools or controls.

2973.5.2 Task: Computes quantities, flow characteristics, pump demand data, motor output data, etc.; prepares estimates of construction materials and costs; develops spreadsheets, charts, and graphs.

Physical Demand: Sitting; close vision; use of hands to finger, handle, or feel objects, tools or controls.

2973.5.3 Task: Reviews plans and specifications for water delivery systems prepared by consulting engineers and recommends revisions for compliance with District standards and rules and regulations.

Physical Demand: Sitting; standing; close vision; speaking; hearing; use of hands to finger, handle, or feel objects, tools or controls.

2973.5.4 Task: Prepares reports, forms, questionnaires, etc., in response to inquiries or requirements of other county, state or federal agencies.

Physical Demand: Sitting; standing; close vision; speaking; hearing; use of hands to finger, handle, or feel objects, tools or controls.

2973.5.5 Task: Leads and/or serves as member of survey crew in field to establish construction control points, locate property monuments, right-of-way alignment control points, or to collect data for mapping purposes.

Physical Demand: Sitting; standing; walking over uneven ground; close and distance vision; speaking; use of hands to operate surveying equipment; driving vehicle.

2973.5.6 Task: Interacts with other special districts, county, state and federal agencies, to obtain permits, authorizations and information, and to respond to inquiries for information from same.

Physical Demand: Sitting; standing; walking; close and distance vision; speaking; hearing; driving vehicle.

2973.5.7 Task: Supervises other District personnel in the locating of District facilities for the purpose of incorporating the facility location data into the District Facilities Atlas.

Physical Demand: Sitting; standing; walking over uneven ground; close and distance vision; speaking; hearing; use of hands to operate locating equipment; driving vehicle.

2973.5.8 Task: Supervises the Engineering Technician and assists in the development and updating of information related to the GIS.

Physical Demand: Sitting; close vision; speaking; hearing; use of hands to finger, handle, feel objects, tools or controls.

2973.5.9 Task: Inspects and evaluates on-going projects to assure compliance with plans and specifications.

Physical Demand: Sitting; standing; walking over uneven ground; distance vision; speaking; hearing; use of hands to finger, handle, feel objects, tools or controls; driving vehicle.

2973.5.10 Task: Serves as District's representative on non-District construction projects.

Physical Demand: Sitting; standing; walking over uneven ground; distance vision; speaking; hearing; use of hands to finger, handle, feel objects, tools or controls; driving vehicle.

2973.6 Marginal Job Duties:

2973.6.1 Task: Operates various pieces of equipment, including computers, various printers and plotters, blueprint and copy machines, calculators, etc.

Physical Demand: Sitting; close vision; use of hands to finger, handle, feel objects, tools or controls.

2973.7 Environmental Demands:

2973.7.1 Outside: Works outside on occasion in a variety of weather conditions ranging from snow to +100°F.

2973.7.2 Inside: Usually works indoors in temperature-controlled environment.

2973.7.3 Fumes/Gases: Exposure to various colognes/perfumes; infrequent exposure to ammonia gas from blueprinting machine, and fumes/dust from printing cartridges.

2973.7.4 Noise/Vibration: Exposure to the noise and vibration generated by various construction equipment - backhoes, loaders, compactors, compressors, rock breakers, etc. - while inspecting or directing construction.

2973.8 Mental Requirements:

- 2973.8.1** Reading: Reads complex manuals and instructions for computer software and hardware, letters, reports, memos and messages.
- 2973.8.2** Writing: Writes letters, reports, memos, messages, and fills out information forms. Needs ability to use or quickly learn the latest version of Microsoft Word.
- 2973.8.3** Math: Ability to work with mathematical concepts such as fundamentals of plane and solid geometry and trigonometry. Ability to apply concepts such as fractions, percentages, ratios, and proportions to practical situations. Ability to use or quickly learn the latest edition of Excel for Windows.
- 2973.8.4** Attention to Detail: High level concentration and attention to detail for extended periods of time required to produce reports and drawings.
- 2973.8.5** Repetition: Repetitive data entry to computer system for drawings and text.
- 2973.8.6** Judgment: Ability to work independently, prioritize work and make decisions regarding correct formatting of work and implementation of same. Ability to define problems, collect data, establish facts, and draw valid conclusions. Ability to interpret an extensive variety of technical instructions in mathematical or diagram form and deal with several abstract and concrete variables. Ability to work with others and formulate appropriate instructions to achieve desired goals
- 2973.8.7** Social Skills: Ability to relate cooperatively with members of the public, Directors, and District personnel.
- 2973.8.8** Communication Skills: Ability to quickly organize and communicate thoughts orally, written or graphically. Ability to understand communications from others.