

**WEST VALLEY SANITATION DISTRICT  
OF SANTA CLARA COUNTY**

**SENIOR CIVIL ENGINEER**

*Class specifications are only intended to present a descriptive summary of the range of duties and responsibilities associated with specified positions. Therefore, specifications may not include all duties performed by individuals within a classification. In addition, specifications are intended to outline the minimum qualifications necessary for entry into the class and do not necessarily convey the qualifications of incumbents within the position.*

**DEFINITION**

Under general supervision or direction, the Senior Civil Engineer manages and performs a variety of the most complex professional level engineering activities assigned to classes within the engineering series which includes District-wide systems engineering, repair and maintenance; project planning, design, construction management, and contract administration; preparation and review of engineering reports and studies; review of complex improvement plans and tract maps; review and analysis of agreements and revenue programs with the regional wastewater treatment facility; coordinates activities with other Departments and interacts with outside agencies, organizations and the public; demonstrates a full understanding of all applicable policies, procedures and work methods associated with assigned duties; and performs other related duties as required.

**DISTINGUISHING CHARACTERISTICS**

The Senior Civil Engineer is the advanced journey level, licensed civil engineer class in the professional engineering series that performs the most difficult and complex tasks in the field of civil engineering. Under general supervision, incumbents exercise a high degree of independence, sound judgment, and initiative in the performance of their duties and that of the departmental staff. Incumbents have a thorough and extensive knowledge of civil engineering as it relates to planning, design, construction, operation and maintenance of wastewater treatment and collection systems, and land development. The duties involve significant contact with all District staffing levels, the public, consultants, contractors, engineers, representatives of other governmental agencies, requiring excellent verbal and written communication skills and a professional demeanor. The Senior Civil Engineer serves as a mentor for all lower level engineers and engineering technicians. This classification is distinguished from the next lower classification in the professional engineering series by the performance of the most complex and difficult assignments, responsibility for oversight and review of work performed by lower level engineering staff, management of design and construction projects, studies, and consultant contracts, and overall responsibility for the work performed and produced by the department.

**SUPERVISION RECEIVED AND EXERCISED**

The Senior Civil Engineer receives general supervision and direction from the department head and from management personnel. The Senior Civil Engineer exercises technical and functional supervision over all lower level professional and technical staff in the department.

**EXAMPLES OF ESSENTIAL FUNCTIONS**

Duties may include, but are not limited to, the following:

- Manages all work activities, exercises technical oversight, and mentoring of lower level professional and technical staff to ensure safe work practices, high work quality and

accuracy; ensures compliance to applicable rules, regulations, standards, policies and procedures.

- Participates in the development and review of departmental and District policies and procedures.
- Develops, implements, and monitors the District's capital improvement program (CIP) and other engineering projects, prioritizes and develops scope for projects, and provides recommendations on projects and consultant and staff work assignments.
- Performs required CEQA analysis for projects and preparation of CEQA documentation.
- Performs review, analysis, data gathering and input of maintenance and asset information involving sewers, maintenance history, and District maintenance programs utilizing computerized maintenance management software (CMMS) and geographic information systems (GIS).
- Performs review and analysis of closed circuit television (CCTV) inspections of sewer assets utilizing accepted industry standard for inspection and computerized CCTV inspection software.
- Reviews and/or prepares plans and specifications for a wide variety of engineering drawings and plans; performs computer-aided design and drafting (CADD); prepares quantity and cost estimates; develops and reviews design procedures and standards; interprets the application of design criteria; checks plans and specifications for accuracy of design and completeness; reviews and/or develops legal descriptions.
- Manages and administers complex design and construction projects and serves as project manager for the most complex projects; coordinates capital improvement projects with consultants, contractors, utility companies, other governmental and regulatory agencies, and the general public.
- Performs construction inspection, when necessary, on a variety of District CIP and repair projects involving sewer repair, rehabilitation, and installation.
- Prepares and/or creates a variety of correspondence, technical memorandums, reports, spreadsheets, databases, and graphs.
- Reviews, analyzes, and interprets: hydraulic model studies and utilizes hydraulic modeling software to predict flow; pipe flow measurement and rainfall monitoring studies; geotechnical reports; environmental studies and CEQA documents; traffic control plans; and storm water pollution prevention plans.
- Interprets codes and regulations in the performance of plan check activities; calculates engineering review, inspection fees, and permit related fees; coordinates plan review process with other departments and agencies.
- Administers and enforces District standards on various assigned projects; addresses and responds to citizen concerns related to engineering issues.
- Plans, coordinates, installs, implements, tests, maintains, and oversees the planning of computer and network systems, databases, applications, and technology.
- Manages and administers budget, service contracts, equipment & maintenance contracts; determines the District's supplies, repairs, tools and equipment requirements for assigned areas of responsibility.
- Establishes and maintains positive working relationships with representatives of community organizations; state/local agencies, contractors, District staff, and the public.
- Drives a motorized vehicle.

- Perform other related duties as required.

### **WORKING CONDITIONS**

Position requires sitting, standing, walking on both level and inclined slippery surfaces, reaching, twisting, turning, kneeling, bending, stooping, squatting, crouching, grasping, crawling and making repetitive hand and finger movement in the performance of daily duties both in the field and office setting. Typical examples of requirements include:

- Use of near and far vision: inspecting construction work, reading plans and specifications, reviewing documents, using computers, and operating assigned equipment.
- Use of acute hearing: during phone conversations, communicating with other individuals, listening for auditory signals or cues from office and field/construction equipment.
- The ability to lift, carry, pull and push tools, supplies and other equipment of varying weight. Reference the Senior Civil Engineer Job Task Analysis for strength and motion requirements to perform essential functions of this position.
- The ability to work outdoors in all weather conditions, including wet, dry, hot, and cold.
- Continuous use of office equipment and computers for extended periods of time and on a regular basis.

The essential functions and physical requirements of this position are described in the Physical Demand Assessments for Senior Civil Engineer. .

Employees of the District are, by State and Federal law, Disaster Service Workers (CA Government Code, Section 3100). In the event of a declared emergency, any employee may be assigned activities that promote the protection of public health and safety, or the preservation of lives and property, either at the District or within the local community.

### **MINIMUM QUALIFICATIONS**

Possession of, or ability to obtain, a valid Class C California driver's license is required to perform the duties of the position. Continued maintenance of this driver's license in compliance with established District vehicle operation standards, and the ability to be insured for the operation of a vehicle in accordance with the terms and conditions of the District's insurance program are conditions of employment.

#### **Education and/or Experience:**

A Bachelor's degree in civil engineering from an ABET accredited college/university engineering program or a closely related field. Five (5) years of experience at the District's Associate Civil Engineer position, or equivalent. A Master's degree in civil engineering from an accredited engineering program may be substituted for one year of required experience. Three (3) years of experience supervising professional, technical, and administrative staff.

#### **License/Certificate:**

Possession of a valid certificate of registration as a Civil Engineer, issued by the California Board for Professional Engineers and Land Surveyors.

### **KNOWLEDGE/ABILITIES/SKILLS**

*The following are representative samples of KAS's necessary to perform essential duties of the position.*

**Knowledge of:**

- Principles, practices, and methods of civil engineering as applied to the planning, design, construction, operations and maintenance of wastewater treatment and collection systems.
- Construction management, project management, and contract administration.
- Partnering concepts and contract negotiation techniques.
- Construction methods and materials, and inspection practices, especially in the areas of public works and sewer pipeline construction.
- Land surveying and basic surveying practices, including legal descriptions and its terminology.
- Construction scheduling methods and practice using Critical Path Method (CPM) and Gantt chart.
- CalOSHA General Industry and Construction Safety Orders and practices, and District safety procedures.
- Modern office practices, methods, and office equipment.
- MS Office Suite software; Word, Excel, PowerPoint, Access, Projects, and Outlook.
- English usage, grammar, spelling, vocabulary, and punctuation.
- Applicable federal, state, and local laws, codes and regulations including District codes, ordinances, and design specifications.
- Principles of CEQA environmental compliance.
- Principles of hydrology and hydraulics and sewer network modeling.
- Computerized maintenance management software (CMMS) and geographic information systems (GIS).
- Closed circuit television (CCTV) inspection methods, industry standards for pipeline and manhole inspection, and associated software.
- Procurement methods and processes, cost control and inventory techniques.
- Research methods used in the collection, tabulation, analysis and application of building related data.
- Principles and practices of management and supervision.

**Ability to:**

- Serve as project manager on multiple Capital Improvement Projects.
- Organize and prioritize a variety of projects and multiple tasks in an effective and timely manner to meet critical time deadlines.
- Review, interpret, apply, and explain complex laws, codes, regulations, ordinances, and plans and specifications.
- Analyze written information and mathematical data to understand and ability to summarize this information to others.
- Independently perform complex planning, design, and engineering functions.
- Provide technical oversight of lower level engineers and technicians.
- Operate modern office equipment including computer equipment and a variety of word processing and software applications.

- Prepare clear and concise reports, correspondence, policies, procedures, and other written materials using proper English, grammar, spelling, vocabulary, and punctuation.
- Make accurate arithmetic, financial, and statistical computations.
- Effectively communicate with tact, diplomacy, and professionalism in person, through correspondence, e-mail, and over the phone.
- Establish and maintain positive working relationships with representatives of community organizations; state/local agencies, contractors, District staff, and the public.
- Plan, organize, manage, coordinate and evaluate the functions and lower level staff.

**Skill to:**

- Effectively use a computer and proficiently use a variety of engineering and Microsoft Office software applications to create letters, reports, graphs, databases, and spreadsheets.
- Inspect construction projects to determine compliance with contract documents.
- Observe and determine safe and unsafe working conditions on the construction site.
- Create and/or modify drawings using CADD.
- Safely and effectively operate engineering tools and equipment.
- Drive a motorized vehicle safely and responsibly.