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# Castro Valley Sanitary District

## POLICIES AND PROCEDURES MANUAL

**POLICY TITLE:** Job Description – Engineering Technician  
**POLICY NUMBER:** 2330

**2330.1** Definition. Performs a wide variety of technical field and office duties and provides operational support and assistance for the Engineering Department, including performing sanitary sewer inspections, providing technical advice to the public, maintaining engineering records, preparing reports, performing basic engineering calculations, and related work as assigned.

**2330.2** Supervision Received and Exercised. Receives general supervision from the General Manager and direct supervision from the Castro Valley Sanitary District (CVSan) Associate Engineer. Project direction may be provided to support staff.

**2330.3** Class Characteristics. The Engineering Technician participates in all standard construction, maintenance, repair, installation, and upgrade activities of CVSan's wastewater collection and disposal systems. Responsibilities include support for the CVSan Associate Engineer in coordinating the activities of the department with those of other departments. Duties also include receiving and responding to inquiries and complaints and frequent use of tact and judgment, performing field observations and surveys, researching engineering topics, and updating maps and drawings. The work requires good knowledge of departmental operations.

**2330.4** Essential Job Functions:

**2330.4.1** Assist in the preparation of specifications, plans, estimates and reports pertaining to the construction, and maintenance and operation of a variety of engineering projects.

**2330.4.2** Perform field, office and computer-aided studies and prepare periodic and special reports based on findings from research, studies and surveys; makes recommendations on findings.

**2330.4.3** Perform basic design and drafting duties in connection with sewer lines, laterals, and other projects.

**2330.4.4** Maintain engineering files, including plans, studies, inspections, surveys, maps, and other data related to engineering projects; updates maps and engineering drawings and other information recorded in Geographical Information System (GIS)

**2330.4.5** Receive and respond to requests from developers, contractors, private engineers, title companies, residents, and others for base maps, parcel maps, improvement plan information, permits and federal, state and local codes, specifications, and ordinances.

**2330.4.6** Develop basic AutoCAD drawings and sketches, plot plans and site lay-outs, and formats map layouts and plot drawings for engineers and contractors.

**2330.4.7** Make engineering calculations in connection with field and office work.

**2330.4.8** May perform more complex construction inspections to confirm contractual compliance with engineering and construction standards. Conduct inspections of construction and repair of public and private collection system components and CVSan facilities for compliance with CVSan Code, Alameda County building regulations, the Uniform Plumbing Code, and other regulations

**2330.4.9** Perform flow monitoring and sampling of wastewater.

**2330.4.10** May investigate consumer complaints and recommends solutions; arranges for advance public notice of shutdowns in non-emergency situations; maintains effective public relations; explains codes and regulations to residents.

**2330.4.10** In case of spill, use soil sampling apparatus to check for contamination of soil.

**2330.4.10** Calculate dimensions, square footage, profile and component specifications, and material quantities using calculator or computer.

**2330.4.11** Read and review project plans to determine dimensions of system and material requirements.

**2330.4.12** Inspect project site and evaluate contractor work to detect design malfunctions and ensure conformance to design specifications and applicable codes.

**2330.5** Essential Cognitive Job Functions:

**2330.5.1** Ability to comprehend and follow instructions:

**2330.5.1.1** Ability to maintain attention and concentration for necessary periods.

**2330.5.1.2** Ability to understand written or oral instructions.

**2330.5.1.3** Ability to do work requiring set limits, tolerances, or standards.

**2330.5.2** Ability to perform simple and repetitive tasks:

**2330.5.2.1** Ability to ask appropriate questions and request assistance.

**2330.5.2.2** Ability to perform activities of a routine and applicable nature.

**2330.5.2.3** Ability to remember locations and work procedures.

**2330.5.3** Ability to maintain a work pace appropriate to a given workload:

**2330.5.3.1** Ability to perform activities within a schedule, maintains regular attendance, and be punctual.

**2330.5.3.2** Ability to complete a normal work day and/or work week and perform at a consistent pace.

**2330.5.4** Ability to perform complex and varied tasks:

**2330.5.4.1** Ability to synthesize, coordinate, and analyze data.

**2330.5.4.2** Ability to perform jobs requiring precise attainment of limits, tolerances, or standards.

**2330.5.4.3** Ability to perform a variety of duties, often changing from one task to another of a different nature without loss of efficiency or composure.

**2330.5.5** Ability to relate to other people beyond giving and receiving instructions:

**2330.5.5.1** Ability to get along with co-workers and peers.

**2330.5.5.2** Ability to perform work activities requiring negotiating with, explaining, or persuading.

**2330.5.5.3** Ability to respond appropriately to evaluation or criticism.

**2330.5.6** Ability to influence people:

**2330.5.6.1** Ability to convince or direct others.

**2330.5.6.2** Ability to understand the meaning of words and to use them appropriately and effectively.

**2330.5.6.3** Ability to interact appropriately with people.

**2330.5.7** Ability to make generalizations, evaluations, or decisions without immediate supervision:

**2330.5.7.1** Ability to recognize potential hazards and follow appropriate precautions.

**2330.5.7.2** Ability to understand and remember detailed instructions.

**2330.5.7.3** Ability to make independent decisions or judgments based on appropriate information.

**2330.5.7.4** Ability to set realistic goals or make plans independently of others.

**2330.5.8** Ability to accept and carry out responsibility for direction, control, and planning:

**2330.5.8.1** Ability to set realistic goals or make plans independently of others.

**2330.5.8.2** Ability to negotiate with, instruct, and supervise people.

**2330.5.8.3** Ability to respond appropriately to changes in work conditions.

**2330.6** Non-Essential Job Functions:

**2330.6.1** Perform basic design and drafting duties in connection with sewer lines, laterals, and other projects.

**2330.6.2** Mark location of underground sewer facilities in response to Underground Service Alert (U.S. A.) notifications.

**2330.6.3** Assist with construction inspections of CVSan projects and private development.

**2330.6.4** Make field or laboratory tests on materials and review adherence to plans and specifications.

**2330.6.5** Manage contracts with contractors and consultants.

**2330.7** Qualifications. Knowledge of:

**2330.7.1** General construction principles and practices in the field of wastewater collection and disposal systems.

**2330.7.2** Principles, methods, and techniques of design, drafting, and mapping.

**2330.7.3** Basic design and maintenance practices of underground sewer lines, pump stations, and related infrastructure.

**2330.7.4** Basic equipment, materials and methods used in the maintenance, cleaning, and inspection of a wastewater collection system.

**2330.7.5** Equipment such as flow meter, wastewater sampler, metal detector, computer, surveying instruments, and plotter.

**2330.7.6** Computer user applications as applied to the solution of engineering problems, such as GIS, CAD, CMMS, and database/spreadsheet applications.

**2330.7.7** Technical engineering mathematics.

**2330.7.8** Applicable laws, codes, and regulations.

**2330.7.9** Technical report writing practices and procedures.

**2330.7.10** Record keeping principles and practices.

**2330.7.11** Techniques for effectively representing CVSan in contacts with professionals, developers, contractors, and the public.

**2330.7.12** Principles and practices of public agency contract oversight.

**2330.7.13** Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.

**2330.8** Skill to:

**2330.8.1** Perform most routine functions related to wastewater collections and disposal systems with minimal instructions and direction.

**2330.8.2** Read and interpret engineering plans and specifications.

**2330.8.3** Use engineering, drafting, and surveying instruments.

**2330.8.4** Make mathematical calculations, accurate engineering computations, and drawings.

**2330.8.5** Perform standard engineering design under professional engineering supervision.

**2330.8.6** Make and record accurate field engineering observations.

**2330.8.7** Prepare clear and concise reports, correspondence, policies, procedures, and other written materials.

**2330.8.8** Maintain accurate records and files.

**2330.8.9** Establish, maintain and foster positive and harmonious working relationships with those contacted in the course of work.

**2330.8.10** Use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

**2330.8.11** Monitor/assess performance of yourself, other individuals, or organizations to make improvements or take corrective action.

**2330.8.12** Make one's own time and that of others.

**2330.9** Education and Experience. Equivalent to completion of two (2) years of college-level coursework in civil engineering and/or drafting and two (2) years of experience in field or office engineering technical support or drafting which has provided familiarity with engineering drafting, surveying, map checking, construction inspection, materials testing, and basic engineering design.

**2330.10** Interpersonal Effectiveness. Ability to work effectively in a team-based organization focused on continuous improvement; establish and maintain a positive customer service attitude and effective working relationships with customers; demonstration of strong two-way communication skills, including the ability to listen, explain, and facilitate; ability to ask for input; offer help without being asked; accept suggestions; work with others to solve problems; provide recognition and encouragement.

**2330.11** Licenses and Certification. Must possess valid California Class C driver's license and have a satisfactory driving record. Must obtain confined space certification. Must possess or obtain Cardiopulmonary Resuscitation, AED and First Aid certificates within a time period specified by CVSan.

**2330.12** Other Requirements. Willingness and ability to work scheduled and emergency overtime; attend meetings, workshops, and seminars during work and non-work hours as assigned.

**2330.13** Physical Requirements. Be able to possess mobility and physical stamina to inspect various collection system and pumping station sites; work on uneven terrain; interpret printed materials and a computer screen; and communicate with people in person and over the telephone. Maintain static postures for extended periods of time; frequent repetitive use of hands and arms including grasping; occasionally bend, stoop, stretch and reach; have strength and stamina to safely transport up to one hundred (100) pounds.

**2330.14** Work Environment. The work requires outside exposure to all weather conditions with dust, noise, fumes, odors, traffic, potentially hazardous materials, and electrical or heavy equipment. May work in confined spaces. Also works in an indoor climate controlled office environment working around computer monitors; with and around others, or alone.

*This description reflects CVSan's assignment of essential functions, it does not proscribe or restrict the tasks that may be assigned.*

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Employee Signature

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Date

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Employer Signature

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Date

**\*\*\* END OF POLICY \*\*\***