



Classification Unit:	<b>Management/Confidential/Professional</b>
Salary Range:	<b>Assistant M36, Associate M46, Senior M64</b>
Last Revision:	<b>August 2015</b>

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## **ASSISTANT/ ASSOCIATE/ SENIOR ENGINEER SERIES**

*These specifications are intended to present a descriptive list of the range of duties performed by employees in this position. Specifications are not intended to reflect all duties performed within the job.*

### **DEFINITION**

Under general direction, to perform a variety of professional engineering duties in the areas of studies, reports, designs and construction plans and specifications for the planning, design, operation, maintenance, repair, and construction of the District's water quality, water production, storage, treatment and distribution facilities and systems; to ensure work quality and adherence to professional codes, standards and District specifications; and to perform a variety of professional tasks relative to assigned area of responsibility, and any additional tasks assigned.

### **DISTINGUISHING CHARACTERISTICS**

#### **ASSISTANT ENGINEER**

This is the entry level, training class in the professional Engineer series. Initially, under immediate supervision, incumbents perform a limited range of professional engineering duties requiring limited exercise of judgment. Duties involve using prescribed methods and include specific and limited portions of a broader assignment of an experienced engineer in planning, design, operation, maintenance, repair, and construction of the District's water quality, water production, storage, treatment and distribution facilities and systems. As experience and proficiency are gained, assignments become more diversified and difficult with increasing independence of judgment. Since this class is typically used as a training class, employees may only have limited or no directly related work experience. Incumbents may advance to the Associate level after gaining experience and demonstrating proficiency which meet the qualifications for the Associate Engineer class.

#### **ASSOCIATE ENGINEER**

This is the journey level class within the professional Engineering series. Incumbents in this class receive direction and exercise independent judgment in performing the full range of complex or difficult work. Additionally, incumbents provide review of work for application of sound professional judgment and may exercise full technical and functional supervision for assigned projects and programs or serve as a resource for

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technical expertise. Typical duties and responsibilities require a broad knowledge of precedents in the specialty area and a good knowledge of principles and practices of related specialties. Assignments include planning, scheduling, conducting or coordinating detailed phases of engineering work in part of a major project or in a total project of moderate scope.

### SENIOR ENGINEER

This is the advanced journey level class in the professional Engineering series. Incumbents in this class receive general or administrative direction in performing a full range of highly complex or difficult work, while exercising considerable independent judgment. Typical duties and responsibilities may involve directing a large and complex engineering project or a number of small projects with many complex features, or serving as a functional specialist or technical advisor requiring significant engineering experience. This is an emergency response position which requires the ability to be on-call. Serves as a member of the "On-Call Supervisor" team.

### SUPERVISION RECEIVED AND EXERCISED

#### ASSISTANT ENGINEER

Receives immediate supervision from higher level supervisory, management staff, or District Engineer. Exercises no supervision.

#### ASSOCIATE ENGINEER

Receives direction from higher level supervisory, management staff, or District Engineer. May exercise technical and functional supervision or direct supervision over professional and technical staff.

#### SENIOR ENGINEER

Receives general direction from higher level supervisory, management staff, or District Engineer. Exercises technical and functional supervision over professional and technical staff.

### ESSENTIAL FUNCTION STATEMENTS

#### ASSISTANT ENGINEER, ASSOCIATE ENGINEER, AND SENIOR ENGINEER

Essential responsibilities and duties may include, but are not limited to, the following:

- Perform a variety of professional civil engineering duties in the planning, design, development, construction, operation, and maintenance of District's flood control, water quality, and water production, storage, treatment and distribution facilities and systems; ensure adherence to professional standards, codes and District specifications.
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- Conduct various engineering studies, investigations and analyses; participate in preparation of reports regarding issues such as the environmental, hydraulic, geotechnical, seismic, hydraulic, geomorphic, water quality, and treatment process aspects of water supply facilities and sites.
  - Assist in the preparation of engineering specifications, drawings, sketches, survey field notes and other supporting documentation for proposed engineering projects including water lines, canals, pumping plants, irrigation systems and storm drains; review drawings, plans and other work submitted by external consultants, engineers, contractors and developers for conformance with professional codes, standards and District specifications; draft and prepare technical and administrative correspondence and reports.
  - Perform and review engineering calculations and prepare cost estimates for proposed projects and contract construction.
  - Prepare, assemble, and distribute copies of maps, charts, and blueprints as requested.
  - Collect, compute and compile engineering data, statistics and surveys; conduct field and office engineering studies related to the research, planning, design, construction, operation and maintenance of water supply facilities.
  - Develop and maintain filing systems for maps and engineering drawings; develop and produce books of maps for field use.
  - Compile water system and natural stream feature data; prepare condition diagrams.
  - Conduct land use, crop and irrigation method surveys.
  - Perform hydrologic measurements along District canals, San Benito River, Tres Pinos Creek and other streams, channels and structures.
  - Inspect various structures and public works, private and capital improvement construction projects for conformance with specifications and regulations; check line, grade, size, elevation, and location of structures, roadway and drainage improvements, and underground utilities.
  - Participate in various engineering studies and related projects with District staff, outside agencies and consultants ensuring that deadlines, standards and specifications are met appropriately.
  - Develop and maintain various databases and computer files and use engineering software or develop programs to solve specific engineering problems.
  - Maintain and update a variety of maps and records including distribution pipelines, deliveries, canal, dams, reservoir, utility system, land use, crop and irrigation method maps.
  - Conduct and perform routine and specialized field inspections.
  - Prepare comprehensive technical reports, budget estimates and informational data for District projects and programs.
  - Under professional supervision, design pipelines, pipeline structures, drainage facilities, roads, canal structures and embankments.
  - Review statutes and regulations, interpret and apply the regulations with respect to District compliance; develop compliance strategies for regulations, may analyze proposed regulations.
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- Analyze projects proposed by other agencies; determine their impact on the district; develop recommendations.
- Provide technical assistance to operation and maintenance personnel in water measurement, metering and meter repair activities.
- Perform pump efficiency and pump flow tests, assist in sounding of various reservoir and other water-way facilities.
- Assist the District Engineer and consultants retained by the District.
- May work irregular hours and respond to emergency conditions.
- Perform related duties and responsibilities as required; and other tasks as assigned.

## **EMPLOYMENT STANDARDS**

### **ASSISTANT ENGINEER, ASSOCIATE ENGINEER, AND SENIOR ENGINEER**

#### **Knowledge of:**

- ❖ Surveying techniques and practices.
- ❖ Terminology, methods, practices and techniques of drafting.
- ❖ Principles, methods, materials, and equipment used in construction, operation, maintenance, surveying, and inspection.
- ❖ Soil mechanics and geology and their application to engineering activities.
- ❖ Engineering principles, practices with emphasis on flood control, water quality and water supply.
- ❖ Environmental engineering principles, practices and methods.
- ❖ Principles of hydraulic engineering related to flood control, water quality and water supply.
- ❖ Engineering mathematics and economics.
- ❖ Construction methods, materials and equipment.
- ❖ Principles and methods of statistical analysis.
- ❖ Computer programs and languages and their engineering applications.
- ❖ Pertinent Federal, State, and local laws, codes, and regulations governing the construction, operation and maintenance of assigned projects.

#### **Ability to:**

- ❖ Prepare accurate engineering sketches, drawings, and records.
  - ❖ Communicate clearly and concisely, both orally and in writing; understand and follow oral and written instructions.
  - ❖ Perform field inspections and survey work.
  - ❖ Design, prepare, and check engineering plans and studies.
  - ❖ Read, interpret, and apply a wide variety of technical information from manuals, drawings, specifications layouts, blueprints, and schematics.
  - ❖ Use, operate, and care for computer equipment and programs including but not limited to Arcview and Autocad software, plotter, printer, and surveying and mechanical instruments and tools.
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- ❖ Perform engineering drafting work using computer equipment and programs.
- ❖ Perform civil or agricultural engineering functions including pipeline design, hydraulic analysis, structural design, hydrology and surveying.
- ❖ Anticipate technical problems and develop solutions.
- ❖ Prepare clear and concise reports and presentations; communicate effectively orally and in writing.
- ❖ Read and interpret property descriptions and maps and sketches.
- ❖ Effectively represent the District, its projects, programs and policies with landowners, customers, the public, and with other agencies.
- ❖ Follow instructions; work independently and cooperatively with others.
- ❖ Establish, maintain, and foster positive and harmonious working relationships with those contacted in the course of work.

**Experience and Training Guidelines:**

*Any combination of experience and training that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:*

**ASSISTANT ENGINEER**

**Experience:**

None-Entry Level-College Graduate

**Training:**

Graduation from an accredited college or university with a Bachelor of Science degree in civil, agricultural, or environmental engineering or a related field. Possession of EIT Certificate required.

**ASSOCIATE ENGINEER**

**Experience:**

Two years professional work experience in civil or agricultural engineering in the areas of water systems, pipelines, pumping stations, canals, irrigation, and groundwater.

**Training:**

Graduation from an accredited college or university with a Bachelor of Science degree in civil, agricultural, or environmental engineering or a related field. Possession of EIT Certificate required.

**SENIOR ENGINEER**

**Experience:**

Four years of increasingly professional work experience in civil or agricultural engineering in the areas of water systems, pipelines, pumping stations, canals, irrigation, and groundwater.

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**Training:**

Graduation from an accredited college or university with a Bachelor of Science degree in civil, agricultural, or environmental engineering or a related field. Possession of CA Professional Engineer Certificate required.

**WORKING CONDITIONS****Environmental Conditions**

Office environment; exposure to computer screens; and field environment; travel from site to site; work in or with water; access and work in confined spaces and high areas; work in or around deep or fast moving waters; exposure to noise, dust, grease, smoke, fumes, gases, inclement weather conditions.

**Physical Conditions**

Ability to work in a standard office environment with the ability to sit, stand, walk, kneel, crouch, stoop, squat, crawl, twist, climb, and lift 70 pounds; exposure to noise, outdoors, vibration, confining work space, chemicals, mechanical hazards, and electrical hazards; ability to travel to different sites and locations.

**SPECIAL REQUIREMENTS**

- ❖ Possession of a valid California Driver's License, Class C, as issued by the State of California Department of Motor Vehicles; and a driving record acceptable to the District's auto insurance provider.
- ❖ Obtain and maintain defensive drivers training certification (training provided by the District)
- ❖ Obtain and maintain CPR and First Aid training certification (training provided by the District)

Approved: August 2015

By: Jeff Cattaneo P.E.  
District Manager