



JULY 2012
FLSA: NON-EXEMPT

ENGINEERING ASSOCIATE

This class specification indicates, in general terms, the type and level of work performed as well as the responsibilities of employees in this classification. The job functions described are not to be interpreted as being all-inclusive to any specific employee.

DEFINITION

Under general supervision, performs a variety of complex paraprofessional engineering field and office duties in support of professional engineering staff from the design phase through the bidding process to develop cost estimates, preliminary design reports and job plans; evaluates design bids; and assists in obtaining permits; provides information and assistance to contractors, developers, engineers, and the general public on the District's engineering services and activities; and performs a variety of technical tasks relative to assigned area of responsibility.

SUPERVISION RECEIVED AND EXERCISED

Receives general supervision from assigned supervisory or management personnel. Exercises no direct supervision over staff.

CLASS CHARACTERISTICS

This class has responsibilities spanning the entire spectrum of paraprofessional engineering functions, including coordination responsibilities for projects and support programs. Incumbents apply advanced paraprofessional engineering knowledge and skills to complete assignments in engineering, mapping, surveying, inspections of construction projects, conducting surveys, and preparation of specifications, plans, and estimates. The work requires public contact, the frequent use of tact and judgment, thorough knowledge of departmental operations, and the ability to coordinate independent projects and programs.

EXAMPLES OF ESSENTIAL JOB FUNCTIONS

The following essential job functions are typical for this classification. Incumbents may not perform all of the listed job functions and/or may be required to perform additional or different job functions from those set forth below to address business needs and changing business practices.

- Work with District's consultants in preparing cost estimates, preliminary design reports and job plans; develop "scopes of work" for the consultants to develop design proposals; evaluate design proposals; participate in project design meetings; coordinate with local building agencies and utility companies to obtain permits for the construction of plant projects.
- Work with construction staff and project engineers to interpret plans and review submittals, as-built drawings, and proposed redesign changes to ensure that they are done according to regulatory requirements and project plans and specifications.
- Conduct field reviews and field measurements to gather data for design and construction purposes for the review of submittals and design changes.
- Verify existing installations; obtain measurements; prepare as-built drawings; prepare charts, loop diagrams, and related documents.
- Prepare sketches, concept drawings, and exhibits for the Board of Directors' Building Committee to obtain necessary approvals for the construction of plant facilities.

- Receive internal and capital documentation; check for accuracy; post information to the appropriate master document.
- Prepares design specifications, plans and estimates for routine projects, such as grading, ramps, curbs, asphalt, and process piping.
- Approve the issuance of connection permits to contractors and the general public after evaluating the construction plans and specifications to ensure that they meet District standards and to determine permit requirements and fees.
- Review and approve annexation applications; prepares sketches, maps and concept drawings.
- Receives and processes utility requests and sewer transfers.
- Maintain Collection System Record Drawing process including filed investigations, mathematical calculations, making sketches and drafting; track contractor plan changes; keep updated status on tracking list for collection capital improvement projects, field discrepancies and connection permits.
- Maintain and update the Sewer Atlas system using appropriate drafting and GIS software applications and databases.
- May assign work and give direction to Engineering Assistants involved in activities such as drafting record drawings, preparing maps, graphs, charts, report covers and other visual aides for permanent documentation or meeting displays; issue connection permits and receive fees.
- Perform related duties as required.

QUALIFICATIONS

Knowledge of:

- Basic civil, mechanical, electrical, or instrumentation engineering principles, practices, and methods applicable to office and field work involving the design, construction, and maintenance of engineering projects.
- Basic design and construction practices and methods of underground facilities and related infrastructure.
- Engineering plan types, review practices, and permit filing and approval procedures.
- Principles and practices of technical civil engineering drafting and surveying.
- Principles of drafting and technical design.
- Basic principles and practices of civil, structural, electrical, and mechanical design.
- Principles and practices of instrumentation design.
- Mathematical principles.
- Methods, techniques, and equipment of drafting.
- Pertinent federal, state, and local codes, laws, and regulations.
- Office procedures, methods, and equipment including computers and applicable software applications such as word processing, spreadsheets, computer aided drafting, internet software, and databases.
- Principles and procedures of record keeping and reporting.
- Technical engineering mathematics.
 - Mechanical and computer drafting techniques.
 - Methods, techniques, materials, equipment, and tools used in engineering and drafting.
- Drafting and surveying equipment, computers, principles, problems, techniques, and practices.
- Applicable Federal, State, and local laws, codes, and regulations, including administrative and department policies and procedures.
- English usage, grammar, spelling, vocabulary, and punctuation.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors, and District staff.

Ability to:

- Perform responsible technical engineering support work with accuracy, speed, and minimal supervision.
- Use drafting, design, and related drawing applications.

- Draft design drawings from blueprints or engineers' drawings using drafting equipment, tools, supplies and software packages or by freehand.
- Prepare as-builts, technical charts, and loop diagrams.
- Compile data, maintain records and files, and participate in the preparation of clear and concise reports.
- Read and interpret maps, plans, sketches, schematics, diagrams, and blueprints.
- Identify and classify pipes and other pertinent construction materials.
- Learn and utilize computerized drafting, design, project management, and records software.
- Recognize electrical color codes.
- Make mathematical calculations and accurate engineering computations and drawings.
- Organize own work, set priorities, and meet critical time deadlines.
- Operate modern office equipment including computer equipment and specialized software applications programs.
- Use English effectively to communicate in person, over the telephone, and in writing.
- Use tact, initiative, prudence, and independent judgment within general policy, procedural, and legal guidelines.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Employment Standards:

Any combination of education and experience that provides the required knowledge, skills, and abilities may be qualifying as determined by OCSD.

1. High school diploma or equivalent supplemented by two years (60 semester units) of college level coursework in pre-engineering or engineering technician from an accredited college, university, or qualified trade school; AND
2. Three (3) years of increasingly responsible work experience preparing preliminary plans, designs, specifications, and estimates for wastewater treatment facilities, performing mathematical computations and applying the knowledge of drafting methods, techniques and equipment to the solution of standard engineering problems.

License or Certificate:

- Possession of a valid California class C driver's license.

Disaster Service Workers:

All Orange County Sanitation District employees are designated Disaster Service Workers through state law (California Government Code Section 3100-3109). Employment with the Orange County Sanitation District requires the affirmation of a loyalty oath to this effect. Employees are required to complete all related training as assigned, and to return to work as ordered in the event of an emergency.

PHYSICAL DEMANDS

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer, to inspect District engineering and construction sites, to operate a motor vehicle, and to visit various District and meeting sites; vision to read printed materials and a computer screen; and hearing and speech to communicate in person, before groups, and over the telephone. This is partially a sedentary office classification, although the job involves field inspection work requiring frequent walking at inspection sites to monitor performance and to identify problems or hazards; standing in work areas and walking between work areas is required. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment. Positions in this classification occasionally bend, stoop, kneel, reach, push, and pull drawers open and closed to retrieve

and file information. Employees must possess the ability to lift, carry, push, and pull materials and objects weighing up to 25 pounds, or heavier weights with the use of proper equipment.

ENVIRONMENTAL ELEMENTS

Employees work in an office environment with moderate noise levels and controlled temperature conditions; but may occasionally work in the field and be exposed to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, mechanical and/or electrical hazards, and hazardous physical substances and fumes. Employees may interact with upset staff and/or public and private representatives in interpreting and enforcing departmental policies and procedures.