

ASSISTANT ENGINEER

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 direct supervision, performs a variety of engineering duties in support of the planning, design, construction, operations, and compliance of wastewater facilities, infrastructure, systems, operations, and programs; assists with the review and preparation of a variety of engineering drawings and designs and compliance and permitting documents; provides support for system management, treatment process performance and optimization including collections and treatment facilities; provides technical assistance to engineering and management staff; and performs duties as assigned.

SUPERVISION RECEIVED AND EXERCISED

Receives direct supervision from assigned supervisory and/or managerial staff. Exercises no direct supervision of staff.

CLASS CHARACTERISTICS

This classification is the first of four (4) levels within the professional engineering job series. The focus at this level is both a technical and analytical role, with work involving the performance of routine professional duties in support of OC San engineering programs and projects. Positions at this level are not expected to function with the same amount of program knowledge or skill level as positions allocated to the Associate Engineer level and exercise less independent judgment and initiative in matters related to work procedures and methods. Work is usually supervised while in progress and fits an established structure or pattern. Exceptions or changes in procedures are explained in detail as they arise. As experience is gained, assignments become more varied and are performed with greater independence. The Assistant Engineer is distinguished from the Associate Engineer in that the latter requires prior professional engineering experience.

EXAMPLES OF ESSENTIAL JOB FUNCTIONS (Illustrative Only)

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.

- Assists with a variety of professional engineering duties in the planning, design, construction, operations, and compliance of wastewater facilities, infrastructure, systems, and programs; assists in the evaluation of a variety of engineering drawings, systems, and processes for the improvement of wastewater treatment facilities; assists with project design and engineering plan review.
- Performs inspection, diagnosis, and development of corrective action plans to plant and sewer system operation and maintenance upgrades and problems.
- Assists in the review of wastewater facility plans and specifications and provides input on functional aspects of proposed facilities.

- Assists in coordinating and/or evaluating the bid and proposal process; prepares purchase recommendations for moderately complex wastewater treatment facility and collection system improvement projects and equipment.
- Tracks OC San's conformity to regulatory requirements for permit compliance; reviews wastewater treatment processes and removal efficiencies and discharge data of treatment facilities.
- Tracks past chemical and utility usage to calculate current and estimated future fiscal year usage for the preparation of budgets and reports.
- Assists with the analysis and performs optimization studies of various chemicals, unit processes, odor control, and utilities throughout the treatment plant; prepares and reviews chemical specifications.
- Performs and reviews preliminary hydraulic calculations of sludge and solids.
- Prepares memos and reports regarding wastewater treatment/conveyance facilities and conducts inspections of wastewater treatment facilities and construction sites.
- Assists in the start-up of moderately complex unit processes.
- Monitors remote chemical dosing sites and the effectiveness of caustic slug dosing.
- Participates in reliability maintenance programs.
- Reviews technical data in providing input on suggestions and recommendations.
- Assists with air dispersion, fate-transport, interceptor odor, and health risk assessment modeling to assess air emissions from the wastewater treatment plants and collection systems and their impact to the surrounding communities; coordinates upgrades, maintenance, and troubleshooting of software as necessary.
- Assists project manager with air quality projects that may include coordinating the preparation of the scope of services; selection of consulting engineers; establishing schedules and/or performance criteria; monitoring performance and budget; and preparation of reports.
- Assists with the design, review, and/or evaluation of plans for air quality control equipment; participates in the development and management of air quality database systems to achieve air quality compliance requirements; performs research for air pollution control and implementation, and development of emission modeling systems and testing programs.
- Assists in or performs the development of conformity documents for OC San facilities; assists in the development of air quality policies; tracks, analyzes, and seeks ways to potentially influence new legislative and regulatory developments related to air quality compliance.
- Participates in the renewal of industrial wastewater discharge permits to industrial facilities; evaluates permit applications and design drawings of industrial waste management practices; prepares for final review of permits and permit requirements; tracks compliance.
- Implements permittees' industrial sampling and monitoring programs; evaluates sampling and monitoring data to determine compliance.
- Assists in enforcement programs to return industries to compliance; evaluates industry compliance histories; performs evaluations of the permittee's corrective response plans and waste management proposals; prepares and finalizes correspondence; tracks compliance.
- Conducts technical facility inspections and compliance audits to assess and verify permit application information and design drawings, assesses the cause of violations, and conducts pollution prevention assessments.
- Interacts with industrial permittees, other regulatory agencies, and the public in person, by telephone, and in writing by responding to requests regarding regulatory, permit and enforcement issues; assists in resolving issues.
- Assists in the preparation of, or prepares, compliance agreements, administrative orders, administrative complaints, staff reports, and administrative fees/penalties.
- Investigates and prepares recommendations regarding new technologies.
- Writes reports for the EPA, RWQCB and other regulatory agencies.
- Assists with project management functions for various construction projects; ensures compliance with contract documents and regulatory permits; assists in monitoring the project schedule; ensures compliance with specifications.
- Prepares designs and specifications; performs constructability reviews on project designs; participates

in construction management functions to ensure projects are constructed in accordance with contract documents, permits, and applicable building codes.

- Assists in design and construction activities to minimize impact to plant facilities and the public.
- Supports design and construction engineering services on engineering projects, systems, and processes, the design of engineering plans, startup and commissioning support services.
- Monitors consultant designs for compliance with regulatory and safety requirements, standards, design quality expectations, and stakeholder needs.
- Assists in the development of the scope of work for new wastewater treatment facility projects and reviews consultant proposals to ensure that drawings and detailed specifications are prepared according to project requirements.
- Assists in preparation of engineering and construction budgets and requests for proposals.
- Provides technical assistance to engineering aides during the shop drawing submittal process.
- Processes easements, grant deeds, agreements, and permits during the preparation of contract bid documents for the construction of wastewater treatment facilities.
- Performs utility searches and resolves moderately complex utility location conflicts during the construction of facilities.
- Conducts power system studies of the electrical equipment to determine how modifications affect the systems and future growth.
- Prepares memorandums and reports regarding wastewater treatment facilities management and conducts inspections of wastewater treatment facilities and construction sites.
- Attends and participates in professional group meetings; stays abreast of new trends and innovations in the field of engineering; researches emerging products and enhancements and their applicability to OC San needs.
- Ensures safety and health procedures and precautions are adhered to, corrects unsafe work conditions/practices, and/or reports unsafe work conditions/practices to assigned supervisory or managerial staff.
- Performs duties as assigned.

QUALIFICATIONS

Knowledge of:

- Applicable federal, state, and local laws, codes and ordinances relevant to area(s) of responsibility.
- Principles and practices of civil, electrical, mechanical, chemical, environmental, structural, or control systems engineering.
- Operations of wastewater management systems and flow regimes.
- Principles of air dispersion, fate-transport, interceptor odor, and health risk analysis modeling.
- Basic principles and techniques of project management, contract negotiation, and/or contract administration.
- Computer-aided drafting (CAD) concepts and applications and Geographic Information Systems (GIS) programs.
- Basic principles and applications of critical thinking and analysis.
- Principles of mathematics and their application to engineering work.
- Basic methods and techniques of effective technical report preparation and presentation.
- The structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.
- Current equipment and communication tools used for business functions and program, project, and task coordination, including computers and software programs relevant to work performed.

Ability to:

- Participate in conducting routine engineering research projects, analyzing problems, evaluating alternatives, making sound recommendations for management review, and preparing technical staff reports.

- Understand, interpret, and assist with review and preparation of engineering construction plans, technical drawings, specifications, and other contract documents.
- Assist in developing and administering contracts for professional services and construction in a public agency setting.
- Recognize discrepancies from as-built to contract specifications and recommend reconciliation.
- Recognize and properly deal with hazardous materials/environments.
- Assist with running various air dispersion, fate-transport, interceptor odor, and health risk analysis models.
- Apply critical thinking and analysis to a broad range of situations and in making decisions and problem solving.
- Participate in the preparation and presentation of clear, concise, and logical written and oral reports, correspondence, policies, procedures, legal descriptions, and other written materials.
- Establish and maintain a variety of filing, record-keeping, and tracking systems.
- Understand, interpret, and apply all pertinent laws, codes, regulations, policies and procedures, and standards relevant to work performed.
- Perform mathematical and engineering computations with precision.
- Effectively represent the department and OC San in meetings with governmental agencies, community groups, various business, professional, regulatory organizations, and in meetings with individuals.
- Operate a motor vehicle and travel to various OC San sites, project and/or meetings.
- Organize own work, set priorities, and meet critical time deadlines under management direction.
- Comply with safe work practices and procedures in the workplace.
- Provide a high level of customer service by effectively dealing with the public, vendors, contractors, and OC San staff.
- Effectively use computer systems, software applications relevant to work performed and modern business equipment to perform a variety of work tasks.
- Communicate clearly and concisely, both orally and in writing, using appropriate English grammar and syntax.
- 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 OC San.

1. Bachelor's degree from a college or university accredited by the U.S. Department of Education, with major coursework in civil, mechanical, chemical, electrical, or environmental engineering, or a related field.

Licenses and/or Certifications:

- Must possess 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

- Mobility to work in a standard office setting and use standard office equipment, including a computer; to operate a motor vehicle and visit various OC San sites, projects, and/or meetings; primarily a sedentary office classification although standing in work areas and walking between work areas may be required; occasionally bend, stoop, kneel, reach, push, and pull drawers open and closed to retrieve and file information; ability to lift, carry, push, and pull materials and objects up to 35 pounds.
- Mobility to work in changing site conditions; to sit, stand, and walk on level, uneven, or slippery surfaces; to reach, twist, turn, kneel, and bend, to climb and descend ladders.
- May be required to perform some light physical work; lift, carry, push, and pull materials and objects averaging a weight of 51 pounds, or heavier weights, in all cases with the use of proper equipment and/or assistance from other staff.
- Vision to read printed materials and a computer screen.
- Vision to inspect site conditions and work in progress.
- Hearing and speech to communicate in person and over the telephone.
- Finger dexterity to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment.
- Frequent walking in operational areas to identify problems or hazards.

ENVIRONMENTAL ELEMENTS

- Office environment with moderate noise levels, controlled temperature conditions, and no direct exposure to hazardous physical substances.
- Field work with exposure to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, chemicals, mechanical and/or electrical hazards, hazardous physical substances and fumes, dust, and air contaminants.
- Employees may interact with upset staff and/or public and private representatives in interpreting and enforcing departmental policies and procedures.

OTHER REQUIREMENTS

- Probationary Period: All OC San employees, except classifications considered “at-will”, are subject to the probationary period provisions as specified in the applicable Memorandum of Understanding, policies, and/or resolutions. Employees who have not yet successfully completed their initial probationary period serve “at-will” and may be released from employment without cause or recourse to any appeal or grievance procedures.
- Pre-Employment: All employment offers are contingent upon successful completion of OC San’s pre-employment process, which includes a background investigation, a physical examination, and a drug screen.
- Work Location Assignment: Employees will be assigned to a work location based on business needs which may be located at any/all of OC San locations; this work location may be changed at any time.