

THE CITY OF LOS ANGELES



CIVIL SERVICE COMMISSION

CLASS SPECIFICATION

10-24-02 WASTEWATER RESIDUALS RESEARCH ENGINEER, 7880

Summary of Duties: A Wastewater Residuals Research Engineer plans, organizes, and coordinates the work of professional engineers who are engaged in wastewater residuals research. An incumbent in this class directs the planning and research to develop and improve the operation of City wastewater residuals facilities, monitors wastewater residuals processes to determine efficiency of operation, and conducts energy preparedness audits and negotiates energy agreements and contracts. A Wastewater Residuals Research Engineer supervises personnel engaged in the preparation of plans and technical reports for improving the Bureau of Sanitation's wastewater residuals and energy management programs. This position also reviews the designs of various wastewater capital improvement projects for the Bureau; provides expertise in the planning, development, and expansion of City wastewater treatment facilities and solids handling processes; and does related work.

Distinguishing Features: A Wastewater Residuals Research Engineer serves as a division head in the Bureau of Sanitation. An employee in this class is responsible for planning, researching and recommending new methods to improve existing solids handling and energy conservation processes and overall operations. The work requires a high level of expertise in the field of sanitary engineering with significant experience in the management of wastewater residuals processes and energy management and conservation. Reports and recommendations developed by the Wastewater Residuals Research Engineer are normally subject to executive review and evaluation. The Wastewater Residuals Research Engineer receives direction in general terms and reports directly to a Bureau of Sanitation Assistant Director. A Wastewater Residual Research Engineer is distinguished from a Principal Sanitary Engineer in that the former requires significant knowledge and experience in the management of wastewater residual processes.

Examples of Duties: A Wastewater Residuals Research Engineer:

- Directs and oversees through subordinate supervisors the operation of a division level function within the Bureau;
- Coordinates activities with City engineering staff and private engineering consultants leading to the planning, designing, and improving of wastewater residual processes and facilities;
- Provides expertise in the planning, development, and expansion of City wastewater treatment facilities and solids handling processes;
- Directs the physical testing necessary for the planning and researching of designs for new solids handling facilities, and improvements to existing facilities;

- Establishes design, research, and experimental protocols for such testing programs;
- Develops performance testing schedules, protocols, procedures, and criteria for the operation of wastewater residual processes and facilities;
- Directs the development of simulation models to assist in the start-up and ongoing evaluation of operational activities of wastewater residual processes and facilities;
- Conducts various energy audits and proposes energy efficient alternatives;
- Negotiates energy contracts and monitors energy consumption;
- Confers with other division heads, consultant engineers, private contractors, engineering personnel from various bureaus and departments, and other governmental agencies concerning the planning, design, construction, and correction of operational problems for the wastewater residuals processes and facilities;
- Prepares technical recommendations for proposed improvements to solids handling processes;
- Develops technical standards and procedures governing the operation of wastewater solids processes;
- Develops loading and design criteria for the implementation of new solids handling processes, as well as the expansion of existing wastewater residuals facilities;
- Contacts or meets with federal, state, and local officials on matters relating to wastewater residuals treatment;
- Provides technical expertise in the evaluation of regulatory policies affecting wastewater treatment and solids handling;
- Reviews reports based on scientific and engineering analysis and documentation concerning solids handling processes and facilities;
- Recommends solutions to regulatory and permit problems relating to City wastewater treatment facilities;
- Directs the preparation of cost control procedures, work programs, and budget estimates for the Bureau's wastewater residuals management programs;
- Administers the fiscal matters of the division, including the preparation of the annual budget request.

May occasionally be assigned to other duties for training purposes or to meet technological changes or emergencies.

Qualifications: Incumbents must have the following knowledge and abilities:

Knowledge of:

- Wastewater residuals process operations research;
- Wastewater treatment solids handling processes;
- Water, land, and air pollution control technologies relating to the operation of wastewater treatment facilities;
- Federal and state regulations and policies that affect wastewater residuals management;
- Coordination and planning problems encountered in the design, construction, and operation of large-scale wastewater treatment and solids handling facilities;

- Civil and sanitary engineering as applied in directing the preparation of designs, plans, specifications, estimate studies, technical reports, and recommendations for wastewater treatment facilities;
- Safety principles and practices;
- Supervisory principles and practices including: planning, delegating and controlling the work of subordinates;
- Techniques of training, instructing, and evaluating of subordinate work performance;
- Techniques for counseling, disciplining, and motivating subordinate personnel;
- Procedures of grievance handling;
- Supervisory responsibility for equal employment opportunity, non-discrimination and reasonable accommodations as set forth in the City's equal employment opportunity policies and directives;
- City Charter and the City's basic administrative ordinances, rules, procedures, and policies;
- Energy generation, consumption, monitoring and efficiency methods;
- The laws and regulations related to equal employment opportunity;
- City personnel rules, policies and procedures;
- Memoranda of understanding as they apply to subordinate personnel.

The ability to:

- Evaluate alternative proposals as to the soundness of engineering and economic feasibility;
- Develop design standards and procedures for wastewater residual facilities and processes;
- Direct and oversee the technical aspects of work relating to wastewater residual processes and facilities for a group of engineering, planning, and design employees;
- Prepare and direct the preparation of reports, agreements, legislative recommendations, cost control procedures, records, and budgets;
- Deal tactfully and efficiently with employees, managers, utility and governmental officials, and the public;
- Establish and maintain a work environment to enhance both employee morale and productivity;
- Apply sound supervisory principles and techniques;
- Fulfill supervisory equal employment opportunity, non-discrimination and reasonable accommodations as indicated in City policies and directives.

Minimum Requirements: Four years of experience as a registered professional engineer at the level of Sanitary Engineer in the design, development, and research of methods for the handling, treatment, and disposal of sewage and wastewater residuals is required. A Master's degree in Sanitary Engineering may be substituted for up to one year of the required experience.

Appointment to the class is subject to a one-year probationary period as provided by Section 1011 of the City Charter.

Registration: Registration as a Professional Engineer with the California State Board of Registration for Professional Engineers and Land Surveyors is required.

License: A valid California Driver's License is required.

Persons with disabilities may be able to perform the essential duties of this class with reasonable accommodation. Reasonable accommodation will be evaluated on an individual basis and depend, in part, on the specific requirements for the job, the limitations related to the disability, and the ability of the hiring department to accommodate the limitation.

As provided in Civil Service Commission Rule 2.5 and Section 4.55 of the Administrative Code, this specification is descriptive, explanatory and not restrictive. It is not intended to declare what all of the duties and responsibilities of any position shall be.