



Code: 5643

Family: Technical Engineering
Service: Operation and Construction
Group: Engineering, Designing, and Structural
Series: Civil Engineering

CLASS TITLE: SANITARY ENGINEER III

CHARACTERISTICS OF THE CLASS

Under supervision, performs fully functional professional sanitary engineering work in connection with water quality control and sterilization and the installation of City water systems, and performs related duties as required.

ESSENTIAL DUTIES

- Works in the field inspecting plumbing lines and appurtenances and selects water samples to test for chemical residuals, clarity, odor, and taste
- Participates in the sterilization of pumping stations, tunnels, water mains, and other structures of the City's water intake and distribution systems
- Collects and analyzes water samples in connection with river and lake pollution surveys, dead end main surveys, and other assigned projects
- Reviews and compiles laboratory data and prepares reports and charts on water quality for submission to federal and state regulatory agencies
- Oversees the disinfection and sampling of new and repaired mains prior to placing in service
- Investigates consumer complaints, large main breaks, pumping station shutdowns, and water distribution system emergencies, in a timely and effective manner while providing good customer service, to determine the impact on the City's potable water and makes recommendations to maintain integrity and purity
- Participates in engineering studies involving the development of more efficient equipment or procedures for the operation and maintenance of water systems
- Inspects and maintains equipment and supplies used in water quality monitoring and water main disinfecting activities
- Maintains records of inspections, water samples, correspondence, and related documentation
- Orders equipment and supplies used in monitoring and disinfecting activities
- Assists in training and providing guidance to lower level staff, as required

NOTE: *The list of essential duties is not intended to be inclusive; there may be other duties that are essential to particular positions within the class.*

MINIMUM QUALIFICATIONS

Education, Training, and Experience

- Graduation from an accredited college or university with a Bachelor's degree in Sanitary, Chemical, Civil, or Environmental Engineering or a directly related field of engineering, plus one year of professional sanitary engineering experience, or an equivalent combination of education, training and experience, provided that the minimum degree requirement is met

Licensure, Certification, or Other Qualifications

- A valid State of Illinois driver's license is required

WORKING CONDITIONS

- General office environment
- Exposure to outdoor weather conditions, including inclement weather and extreme temperatures

EQUIPMENT

- Standard office equipment (e.g., telephone, mobile devices, printer, photocopier, fax machine, calculator)
- Computers and peripheral equipment (e.g., personal computer, computer terminals, hand-held computer)
- Personal protective equipment (e.g., hard hat, shoes, glasses, gloves, Self-Contained Breathing Apparatus (SCBA))
- Scientific calculators
- Water quality testing and on-line field monitoring equipment

PHYSICAL REQUIREMENTS

- Ability to stand and walk for extended or continuous periods of time
- Ability to operate an automotive vehicle
- Ability to collect water samples from lakes, tunnels, pumping stations and water mains
- Ability to open a fire hydrant

KNOWLEDGE, SKILLS, ABILITIES, AND OTHER WORK REQUIREMENTS

Knowledge

Moderate knowledge of:

- *sanitary engineering and water quality methods, theories, principles, and procedures
- *applicable water treatment and purification theories, principles, methods, practices, and procedures
- *measuring equipment and instruments, including sanitary engineering mechanical and electrical recording equipment
- *sterilization and abatement treatments and methods
- *applicable safety principles, methods, practices, and procedures
- *applicable federal, state, local laws, regulations, and guidelines

Some knowledge of:

- environmental inspection methods, theories, principles, and procedures

Knowledge of applicable City and department policies, procedures, rules, regulations

Other knowledge as required for successful performance in the Sanitary Engineer II class

Skills

- *ACTIVE LEARNING - Understand the implications of new information for both current and future problem-solving and decision-making
- *ACTIVE LISTENING - Give full attention to what other people are saying, taking time to understand the points being made, ask questions as appropriate, and not interrupt at inappropriate times

- *CRITICAL THINKING - Use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems
- *MATHEMATICS - Use mathematics to solve problems
- *SCIENCE – Use scientific rules and methods to solve problems
- *COORDINATION WITH OTHERS - Adjust actions in relation to others' actions
- *EQUIPMENT MAINTENANCE - Perform routine maintenance on equipment and determine when and what kind of maintenance is needed
- *EQUIPMENT SELECTION – Determine the kind of tools and equipment needed to do a job
- *QUALITY CONTROL ANALYSIS - Conduct tests and inspections of products, services, or processes to evaluate quality or performance

Other skills as required for successful performance in the Sanitary Engineer II class

Abilities

- COMPREHEND ORAL INFORMATION - Listen to and understand information and ideas presented through spoken words and sentences
- SPEAK - Communicate information and ideas in speaking so others will understand
- COMPREHEND WRITTEN INFORMATION - Read and understand information and ideas presented in writing
- WRITE - Communicate information and ideas in writing so others will understand
- REASON MATHEMATICALLY – Choose the right mathematical methods or formulas to solve a problem
- RECOGNIZE PROBLEMS - Tell when something is wrong or is likely to go wrong
- REACH CONCLUSIONS – Combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events)
- WORK WITH NUMBERS - Add, subtract, multiply, or divide quickly and correctly

Other abilities as required for successful performance in the Sanitary Engineer II class

All employees of the City of Chicago must demonstrate commitment to and compliance with applicable state and federal laws, and City ordinances and rules; the City's Ethics standards; and other City policies and procedures.

The City of Chicago will consider equivalent foreign degrees, accreditations, and credentials in evaluating qualifications.

* May be required at entry.

City of Chicago
Department of Human Resources
July, 2014