SENIOR ENGINEER

Under direction, in one or more branches of engineering, performs the more difficult field and office engineering work involved in the design, maintenance and construction of structures and/or systems; performs other related duties as required.

NOTE: The examples of work for this title are for illustrative purposes only. A particular position using this title may not perform all duties listed in this job specification. Conversely, all duties performed on the job may be listed.

EXAMPLES OF WORK:

Performs the more difficult field and office engineering work involved in the design, maintenance, and construction of highways, roads, streets, bridges, culverts, storm drainage systems, sanitary sewer systems, waste water treatment facilities, buildings, public grounds, mechanical systems, heating systems, cooling systems, electrical power delivery systems, electrical power generation systems, traffic control systems, interior/exterior lighting and wiring systems, water distribution/management or supply systems, environmental remediation systems and processes, and/or some other branch of engineering.

Investigates the conditions of facilities, structures and equipment as required.

Estimates the quantities of required materials and costs of specific maintenance projects.

May conduct field inspections of all outside public works and public utilities construction such as curbs, roads, culverts, water lines, sanitary sewer lines, sidewalks, storm drain lines, pole lines, electric power lines, substations and generating stations.

Prepares clear, sound, accurate and informative reports containing findings, conclusions and recommendations.

Drafts correspondence pertaining to engineering programs and activities.

Assists in the design/development, repair and maintenance of water management equipment and systems.

Assists with flood control projects and helps map out drainage systems for dealing with water flow.

Devises solutions to environmental problems, such as pollution control and remediation.

Assists in maintaining plant operation and improvement projects.

Provides guidance and assistance to subordinates in their work performance.

Maintains essential records and files.

May conduct field inspections for a variety of public works construction projects.

Will be required to learn how to utilize various types of electronic and/or manual recording information systems used by the agency,

office or related unit.

REQUIREMENTS:

Graduation from an accredited college or university with a Bachelor's degree in Civil, Mechanical, Chemical or Electrical Engineering.

NOTE: A Bachelor of Science degree in Engineering Technology (BSET) in a field related to Civil, Mechanical, Chemical or Electrical Engineering from an accredited college or university having a curriculum approved by the Accreditation Board of Engineering Technology (ABET) may substitute for the above education requirement.

NOTE: Possession of a Professional Engineers (PE) License issued by the New Jersey State Board of Professional Engineers and Land Surveyors may be substituted for the above education requirement.

EXPERIENCE:

Two (2) years of related experience in Civil, Mechanical, Chemical or Electrical Engineering.

NOTE: A Master's degree in Civil, Electrical, Chemical or Mechanical Engineering, or a Master of Science in Engineering Technology (MSET) in a field related to Civil, Electrical, Chemical or Mechanical Engineering may be substituted for one (1) year of experience.

LICENSE:

Appointees will be required to possess a driver's license valid in New Jersey only if the operation of a vehicle, rather than employee mobility, is necessary to perform essential duties of the position.

KNOWLEDGE AND ABILITIES:

Knowledge of the principles of engineering and the procedures involved planning and designing engineering projects.

Knowledge of engineering problems involved in design, maintenance, and construction of structures and/or systems.

Knowledge of engineering mathematics such as trigonometry and calculus.

Ability to inspect materials, workmanship, and construction and installation of various public works and/or public utility facilities may be required.

Ability to apply federal, state and local ordinances, resolutions and codes relating to public works and/or public utilities to specific cases may be required.

Ability to prepare clear, sound, accurate and informative reports containing findings, conclusions and recommendations.

Ability to maintain essential records and files.

Ability to learn how to utilize various types of electronic and/or manual recording information systems used by the agency, office or related units.

Ability to read, write, speak, understand, or communicate in English sufficiently to perform the duties of this position. American Sign Language or Braille may also be considered as acceptable forms of communication.

Persons with mental and physical disabilities are eligible if they can perform essential functions of the job with or without reasonable accommodation. If the accommodation cannot be made because it would cause the employer undue hardship, such persons may not be eligible.