

JUNIOR ENGINEER

DISTINGUISHING FEATURES OF THE CLASS: Responsible for elementary professional or responsible sub-professional engineering work in the office or field in connection with the design, investigation, development, maintenance, operation or construction of engineering projects. The work requires limited experience or practice, but demands the ability to apply principles of physics, mathematics, mechanics and materials to engineering problems; combined with work of highest sub-professional level, requiring familiarity with methods, materials, equipment and techniques used in the field. A Junior Engineer may receive assignments in general terms, as far as details are concerned, but the scope of each assignment is limited and methods of procedure are outlined by superiors. Supervision may be exercised over engineering aides. Does related work as required.

TYPICAL WORK ACTIVITIES: (Illustrative Only)

Creates maps and visual information records, using Geographic Information System (GIS) methods and geo-database information;

Supervises construction work, when such supervision involves the exercise of either knowledge of engineering principles or of the more complex construction practices;

Utilizes GIS to perform hydraulic model analysis of system to represent normal failure mode operation;

Drafts, and occasionally designs, plans and profiles for the construction of pavements, curbs, sidewalks, sewers and drains;

Conducts surveys to establish or re-establish property lines and corners, to map a developed area, and to run location lines for roads, conduits, etc.;

Keeps records of amount of work done and of changes in plans and specifications;

Updates the GIS based on system operation, modification and growth;

Interfaces with system operations personnel to share relevant data needed for system operations and management, outage management;

Uses, and supervises, the use of instruments in making observations and in gathering and recording engineering data;

Performs standardized work in connection with measurement of water flow in accordance with the procedures established by a superior, such as, measuring with current meters or other devices at established points, or assisting in determining the flow of water or loss of water through seepage;

Checks design computations and plans of other engineers for routine errors;

Supervises the work of engineering aides engaged on surveys and in inspection work.

continued...

FULL PERFORMANCE KNOWLEDGE, SKILLS, ABILITIES AND PERSONAL CHARACTERISTICS:

Good knowledge of the principles of civil engineering and physics; good knowledge of fundamental mathematics, including geometry and trigonometry; working knowledge of construction and engineering practices; skill in the use of engineering field and office instruments; ability to design moderately difficult engineering projects; ability to make moderately difficult technical computations and to compile engineering data; ability to read and interpret engineering drawings and specifications; ability to operate a micro-computer; sound judgement; ability to get along well with others; mental alertness; industry.

MINIMUM QUALIFICATIONS: Either:

- (A) Graduation from a regionally accredited or New York State registered college or university with a Bachelor Degree in civil, environmental, or sanitary engineering, or a closely related field, **AND** one (1) year of engineering experience; **OR**
- (B) Graduation from a regionally accredited or New York State registered college or university with an Associate Degree in civil or environmental engineering, or a closely related field, **AND** three (3) years of engineering experience; **OR**
- (C) Graduation from high school or possession of a high school equivalency diploma **AND** five (5) years of engineering experience.

NOTE: Verifiable part-time experience will be pro-rated toward meeting full-time experience requirements.