

DEPARTMENT: PUBLIC WORKS - ENGINEERING
CLASSIFICATION: COMPETITIVE
APPROVED: JULY 28, 2023

JUNIOR CIVIL ENGINEER

DISTINGUISHING FEATURES OF THE CLASS: Performs difficult engineering tasks such as calculations, highway, bridge and building design. Interprets building codes, design manuals, design standards, survey notes, specifications, drawings, written and oral instructions. As a member or the chief of a survey crew, the incumbent is expected to be able to perform all work related to the survey of roads, bridges, buildings and right-of-way. Work is performed under the supervision of the Deputy Commissioner of Public Works - Engineering, a Senior Civil Engineer, or assigned supervisor. The incumbent may supervise a survey party or the preparation of drawings. Does related work as required.

TYPICAL WORK ACTIVITIES:

1. Designs roads and bridges to be constructed or reconstructed, computing materials and fill; checks and plots from survey notes; notes the baseline, cross sections and topography of a road;
2. Makes engineering calculations for pavements, drainage, quantities and structures;
3. Designs buildings and facilities to be constructed or reconstructed;
4. Prepares right-of-way maps, road plans, building plans and cross sections using lead, ink or computer aided drafting (CAD) and specifications and compiles itemized proposals and contracts;
5. When assigned, acts as lead inspector on project sites to ensure compliance with drawings and specifications;
6. Maintains records of construction materials and progress;
7. Prepares estimates for payment during and at completion of construction and prepares final book;
8. Conducts inspections of highways, bridges, buildings or various facilities;
9. Communicates with the public, contractors and government agencies verbally and in writing;
10. Operates all office machines and equipment.

FULL PERFORMANCE KNOWLEDGES, SKILLS, ABILITIES AND PERSONAL CHARACTERISTICS:

Good knowledge of mathematics, the properties of materials, elements of engineering research and engineering economics; good knowledge of drafting procedures; good knowledge of the use, care and adjustment of engineering, and scientific measuring instruments and tools, engineering practices and customs of design, construction, inspection, operation and maintenance of engineering projects; ability to follow specific, detailed and frequent instructions; accuracy; resourcefulness; keenness of observation and sensory perception and initiative; physically able to move about on a construction site including climbing; able to communicate effectively with the public; ability to get along well with others; sound professional judgment; initiative and resourcefulness; industry and dependability; physical condition commensurate with the demands of the position.

SUGGESTED PROMOTIONAL QUALIFICATIONS: One (1) year of permanent competitive status as a Senior Engineering Aide in the Niagara County Department of Public Works immediately preceding the date of exam.

OPEN-COMPETITIVE QUALIFICATIONS: Graduation from high school or possession of a high school equivalency diploma **and** one of the following:

1. Graduation with a bachelor's degree in civil engineering or related engineering field; **OR**
2. Graduation with an associate's degree in civil engineering technology or related technology field including construction, forestry, traffic, or highway and structural **and** two (2) years of full-time paid experience in civil engineering or related engineering field, or in construction, surveying, design, drafting, or inspection and estimating.

NOTE: Degrees must have been awarded by a college or university accredited by a regional, national, or specialized agency recognized as an accrediting agency by the U.S. Department of Education/U.S. Secretary of Education.

SPECIAL REQUIREMENT:

1. Satisfactory completion of two (2) credit hours of course work in an accredited CAD program or three (3) months full-time experience using CAD in an engineering application; **and**
2. Possession of a valid New York State Driver's license at time of appointment and for the duration of employment.