SENIOR ENGINEERING TECHNICIAN

DISTINGUISHING FEATURES OF THE CLASS: These positions are characterized by performing technical tasks in support of assigned engineering programs and projects. A Senior Engineering Technician receives general instructions about work to be done, but works with relative independence in selecting methods resolving problems, collecting and evaluating information, making recommendations, and carrying out construction projects from preliminary stages until completion. This class differs from Engineering Technician in that it involves a broader range of engineering techniques, procedures, technical materials, and exercise of more independence. While supervision is not usually a responsibility of an employee in this class, an incumbent may provide technical supervision to Road Section Supervisors and their crews when assigned to act as "Engineer in Charge" of a project. A Senior Engineering Technician does related work as required.

TYPICAL WORK ACTIVITIES:

- Consults with engineers and chief technicians to determine preliminary scope of projects in order to carry them out;
- May conduct field surveys acting as "crew chief," instructing crews where to locate job and to collect data;
- Meets with civil engineering staff to discuss assigned projects in order to discuss and resolve anticipated problems;
- Completes analysis of waterways, which involves mapping, calculating drainage areas, determining hydraulic flows, and sizes of proposed structures;
- Designs road alignments and vertical grades utilizing accepted design guidelines with the aid of computerized civil engineering software programs;
- Consults with engineering staff to complete structural design;
- Completes cross-section designs and material quantity estimates or delegates tasks to subordinates;
- Coordinates project schedule with utility companies where it is necessary to protect or rebuke power, telephone, gas, and water lines;
- Designs guide rails, taking into account place of need, deflection limits, rail system type, and prepares bills of materials;
- Develops traffic detour plans and right-of-way layout to enable surveyor to produce maps for right-of-way acquisitions;
- Negotiates with landowners in order to obtain easement executions and rights of way;
- Obtains permits from state and federal agencies applying knowledge of regulatory requirements necessary for a project;
- Coordinates construction needs and scheduling with Chief Engineering Technician, Operations Manager and Area Road Section Supervisor;
- Acts as "Engineer-in-Charge" of project overseeing construction layout, excavation, inspecting construction work, and coordinating equipment needs;
- Makes modifications to drawings to depict project as actually built following completion of construction and inspection reports;
- Keeps abreast of developments in engineering, construction, and computer aided technology.

FULL PERFORMANCE KNOWLEDGES, SKILLS, ABILITIES, AND PERSONAL CHARACTERISTICS: Good knowledge of mathematics, including algebra, geometry, and trigonometry; good knowledge of drafting and surveying, including basic engineering computations; good knowledge of the methods and materials of construction as related to roads, bridges, drainage, buildings, and related structures; good knowledge of the use of standard technical reference materials used in construction, materials testing, and structure and waterways maintenance; good knowledge of the commonly used engineering symbols and terminology used in design, construction, and materials specifications; good knowledge of the Department's construction inspection program, including engineering tests; ability to understand and interpret technical material such as construction plans and specifications, technical reference materials, technical instructions, and New York State Standard specifications; ability to reduce and plot field survey notes; ability to prepare technical narrative, tabular, and graphic material, and maps and drawings; ability to perform basic engineering tests; ability to observe construction and determine compliance with specifications; ability to communicate with others to obtain, provide, and exchange information; physical condition sufficient to perform the essential functions of the position.

MINIMUM QUALIFICATIONS:

PROMOTION: Two (2) years of permanent competitive class service as an Engineering Technician or Engineering Drafter.

OPEN-COMPETITIVE: Either:

A) Possession of an Associate's Degree in Engineering Technology or closely related field, and (2) two years of experience involving surveying, drafting, or the work of an engineering technician

OR

B) Successful completion of coursework consisting of eighteen (18) semester credit hours in engineering or engineering technology; chemical, civil, mechanical, sanitary engineering technology; environmental technology; drafting; mathematics or science, and four (4) years' experience involving surveying, drafting, or the work of an engineering technician or drafter;

OR

C) Graduation from high school or possession of a high school equivalency diploma and five (5) years' experience involving survey, drafting, or the work of an engineering technician or drafter.

NOTE: Your degree 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. If your degree was awarded by an educational institution outside the United States and its territories, you must provide independent verification of equivalency. A list of acceptable companies who provide this service can be found on the New York State Civil Service website. You must pay the required evaluation fee.

CATTARAUGUS COUNTY CIVIL SERVICE

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