CHIEF ENGINEERING TECHNICIAN

DISTINGUISHING FEATURES OF THE CLASS: These positions perform technical tasks utilizing a wide range of engineering skills including surveying, waterway hydraulics, computer aided drafting and design, and assisting in structural designs. This class differs from that of Senior Engineering Technician by virtue of the scope of responsibilities requiring the advanced practical application of theories and principles of civil engineering technology. The work is performed under general supervision in consultation with civil engineers. Supervision is exercised over Senior Engineering Technicians, Engineering Technicians and an Engineering Drafter. When acting as "Engineer in Charge," technical supervision may be exercised over Road Section Supervisors and their crews. A Chief Engineering Technician does related work as required.

TYPICAL WORK ACTIVITIES:

- Consults with engineers to determine preliminary scope of projects in order to carry them out;
- Conducts field surveys acting as "crew chief," instructing crews where to locate job and to collect data;
- Assigns projects to engineering technicians on the basis of current workload, special interest, specialized aptitudes, and stages of development of training and experience;
- Completes, or assigns engineering technicians to complete preliminary drawings for projects;
- Consults with engineering staff to finalize design parameters;
- Meets with civil engineering staff following preliminary design 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;
- Coordinated 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;
- Acts as "Engineer-in-Charge" of project overseeing construction layout, excavation, inspecting construction work, and coordinating equipment needs;
- Makes modifications to depict project as actually built following completion of construction and inspection reports;
- Reviews work of subordinate engineering technicians providing advice, and assigning projects;
- Coordinates construction needs and scheduling with Operations Manager and area Road Section Supervisors;
- 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:

Graduation from high school or possession of a high school equivalency diploma and either:

A. Successful completion of course work from a regionally accredited or New York State registered college or university 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 Aide;

OR

B. Five (5) years of experience involving surveying, drafting or the work of an engineering technician or aide.

CATTARAUGUS COUNTY CIVIL SERVICE COMMISSION

Adopted: 6/24/04