

CLASS TITLE:       **Electrical Engineer IV**

CHARACTERISTICS OF THE CLASS: Under supervision, the class functions as a project manager on moderately complex projects for the design, installation and maintenance of electrical systems including street lights, traffic signals, transit lines, fire alarms, bridges and electrical equipment; and performs related duties as required.

ESSENTIAL DUTIES: Confers with management to determine project scope and objectives based on budget and project plans prepared by staff and consultant engineering firms; surveys project location to identify existing utilities, systems and equipment, take field notes and draft preliminary sketches; prepares complex design plans for large projects detailing electrical power, equipment, material and labor needs and prepares estimates of related costs; prepares contract documents including plans, specifications and cost estimates for large scale electrical engineering projects that will be performed by contractors; reviews project design plans and drawings prepared by consultant engineering firms for accuracy and conformance to project requirements and standards and makes or requests changes as needed; performs complex calculations to determine electrical power distribution, luminance and voltage levels; develops and writes specifications for the procurement of electrical equipment and systems; interprets plans and specifications to contractors; conducts field inspections of work in progress to monitor compliance with contract specifications, check materials and equipment and evaluate changes in construction plans; oversees the testing and evaluation of new electrical equipment and systems; determines the appropriateness of engineering changes, contract amendments and related costs, and confers with contractors to review and approve plan changes and contract modifications; reviews payment vouchers submitted by engineering and construction firms ensuring payment requests reflect completed work according to contract specifications; meets with construction contractors and utility companies to coordinate electrical construction work and resolve complex electrical engineering problems; prepares project status and cost reports for management.

RELATED DUTIES: Prepares grant applications to secure project funding; consults with other departments and agencies to coordinate electrical engineering work on various infrastructure projects; assists in training and providing guidance to lower level staff; researches new materials and techniques for use in installing, maintaining and repairing electrical systems and equipment; may supervise engineers and technicians on assigned projects.

CLASS TITLE:       **Electrical Engineer IV (Cont'd)**

MINIMUM QUALIFICATIONS:

Training and Experience. Graduation from an accredited college or university with a Bachelor's degree in Electrical Engineering or a directly related field of engineering supplemented by two years of progressively responsible electrical engineering experience, or an equivalent combination of training and experience, provided the minimum degree requirement is met.

Some positions may require a State of Illinois Driver's license.

Knowledge, Abilities and Skill. Good knowledge of modern principles and practices of electrical engineering. Good knowledge of various electrical conduit designs. Good knowledge of advanced mathematical principles. Good knowledge of voltage and applicable safety codes and ordinances. Good knowledge of infrastructure systems. Good knowledge of contract modification procedures.

Ability to estimate costs and schedules for electrical engineering projects. Ability to originate, prepare and check designs, estimates and specifications for electrical engineering projects. Ability to supervise electrical installation and repair work. Ability to prepare clear and concise reports.

Good skill in the application of modern principles and practices of electrical engineering. Good advanced technical math skills. Good skill in preparing electrical conduit designs. Good skill in managing complex electrical engineering projects. Good skill in preparing specifications and cost estimates for electrical engineering projects. Good analytical skills. Good oral and written communication skills.

Physical Requirements. Ability to access work sites during various stages of construction or repair.

Working Conditions. Inside: General office environment. Outside: Occasional exposure to inclement weather and extreme temperatures.

Equipment. Field surveying equipment. Standard office equipment including personal computers.

NOTE:           While the list of essential duties is intended to be as inclusive as possible, there may be other duties which are essential to particular positions within the class.

May, 2002  
City of Chicago  
Department of Human Resources  
Driver's License added December, 2016