

## **TRAFFIC SYSTEMS & NETWORKING SPECIALIST**

### CLASS DESCRIPTION

#### General Responsibilities:

This is highly skilled technical, lead work in the Electrical Section of Traffic Engineering. Under general supervision, this position is responsible for coordinating and overseeing the installation and repair of complex electrical/electronic computerized equipment associated with traffic signals, street lighting, fiber optic network and other City-maintained equipment and systems. Work is characterized by the exercise of independent judgment in laying out work and directing Electrical Section employees.

#### Examples of Duties and Responsibilities:

Plan for, train, assign and oversee skilled, semi-skilled, and seasonal employees in the maintenance and installation of City-maintained traffic signals, lighting and emergency alarms. Monitor projects performed by subordinates. Oversee the inspection of electrical work on contracted City projects and make field modifications as needed. Effectively recommend the prioritization of resources within policy parameters. Refer performance and/or other employee relations problems to supervisor for resolution.

Analyze and develop work processes involving functional computer applications (e.g. relative to maintenance, record-keeping, signal timing, signal monitoring, real-time displays, field and facilities inventory, etc.). Develop and maintain on-going preventative maintenance programs. Develop procedures and practices for the installation, operation, and maintenance of traffic signal, lighting, and emergency alarm equipment.

Install, maintain, program and update traffic signal and related computer systems. Program and monitor the operation of controllers and traffic signal computer systems. Test and develop operating programs for traffic signals, lighting, emergency alarms and related equipment.

Oversee the installation and repair of City fiber optic network operations including network installation, modification, troubleshooting and repair. Install, maintain, and repair surveillance cameras. Provide technical support to City IT.

Research and design equipment and controls for traffic signals, lighting and emergency alarms. Assist engineers with and/or develop techniques to integrate new and existing equipment. Attend pre-construction meetings and complete "as-build" drawings.

Respond to and repair electrical malfunctions. Perform emergency repair work as required including rotating standby duties.

Perform master electrician work relative to the installation, troubleshooting, modification, maintenance and repair of traffic signals and associated equipment, controllers, vehicle

detectors, etc.; City-maintained lighting and associated equipment; and City-maintained emergency alarm and associated equipment.

Complete and review daily work orders and records relating to installation, modification, maintenance and repairs, including necessary billing information. Review project billings.

Oversees electrical section inventory and ordering of all equipment, parts and supplies and storage areas.

Maintain and clean equipment.

Coordinate and communicate with Traffic Engineering staff regarding electrical projects and systems.

Perform related work as required.

## QUALIFICATIONS

### Knowledge, Skills and Abilities:

Thorough knowledge of the installation, operation, maintenance, repair of traffic signals and street lighting systems including computerized controllers; fiber optics and related networking equipment, alarm systems and associated equipment. Thorough knowledge of streetlights, circuits, and related equipment. Thorough knowledge of underground equipment locating methods and techniques. Thorough knowledge of electrical occupational hazards and safety precautions. Thorough knowledge of work zone safety procedures. Thorough knowledge of computers and computer-based equipment and the ability to use associated programs and develop special-purpose applications. Working knowledge of basic traffic signal timing principles. Ability to understand and operate complex electronic controls and devices used in traffic signal, lighting, and emergency alarm systems. Ability to comprehend and accurately perform work from schematics, penciled layouts, specifications, written and/or verbal instructions. Ability to maintain related records and prepare reports. Ability to train and direct crews in the repair, modification, maintenance, and installation of TE related equipment. Ability to establish and maintain effective working relationships with assigned staff, contractors and other city agencies; to communicate effectively both orally and in writing. Ability to perform electrical inspections. Ability to operate a variety of aerial lift vehicles, digging, trenching, and other construction equipment. Ability to use color-coded wiring systems. Ability to engage on a daily basis in strenuous physical activity and to perform under adverse weather conditions. Ability to maintain and clean equipment and work areas. Ability to perform heavy physical manual labor. Ability to maintain adequate attendance. Ability to work nights and weekends as required.

### Training and Experience:

Generally, positions in this classification will require:

Three years of skilled journey level electrical and crew leader work involving the installation, inspection, maintenance and repair of traffic signal, street lighting, data communication and emergency alarm systems comparable to that gained as a Traffic Signal Electrician 2 with the

City of Madison, and possession of a Master electrician license. Such experience would normally be supplemented by related coursework in electrical/electronic repairs and computer technology. Other combinations of training and/or experience which can be demonstrated to result in the possession of the knowledge, skills and abilities necessary to perform the duties of this position will also be considered.

Specific training and experience requirements will be established at the time of recruitment.

Necessary Special Qualifications:

Possession of a valid Class A Wisconsin Commercial Driver’s License. The successful candidate must have passed the written portion of the relevant Department of Transportation testing process before starting employment. A condition of continued employment is passage of the skills portion of the test and obtaining the required operator’s license within a specified timeframe. Specific endorsement requirements will be determined on a position by position basis.

Certification in CPR or the ability to obtain certification within the probation/trial period. Failure to obtain this certification within the probation/trial period will result in the employee not passing probation/trial period, absent extenuating circumstances.

Possession of a Traffic Signal Electrician 2 certification and a State of Wisconsin Master Electrician license upon hire.

Physical Requirements:

Employees in this position must be able to lift/carry objects weighing up to 100 pounds on occasion and objects weighing up to 50 pounds on a regular basis. This position requires a high percentage of work outdoors in all types of weather, in high-traffic situations, and at various heights above the ground using aerial trucks and ladders. In addition, employees must be able to frequently walk, bend, squat, climb, kneel, stoop and lift arms overhead to perform work for extended periods of time.

<b>Department/Division</b>	<b>Comp. Group</b>	<b>Range</b>
Transportation/Traffic Engineering	16	22

Approved: \_\_\_\_\_  
 Brad Wirtz  
 Human Resources Director  
 Date