



ELECTRICIAN I

JOB DESCRIPTION

Department: Public Works	Division: Operations
Work Location: Public Works Department	Percent Time: 100%
Job Type: Civil Service	FLSA Status: Non-Exempt
Reports To: Electrical Supervisor	Union: AFSCME

JOB SUMMARY

Electricians perform complex technical electrical work, on a journeyman level, in the installation, alteration, maintenance, and repair of electrical systems, equipment, and fixtures in accordance with standard practices of the electrical trade. Electricians inspect and test elements of electrical systems to locate and diagnose faults and malfunctions, perform required repairs through replacement of inoperative parts or re-wiring of circuits, and provide estimates of repair (and/or replacement) costs beyond the capability to perform. Responsibilities also include locating City maintained utilities; installing wiring, conduit, and other raceways; troubleshooting components and systems; maintaining and repairing traffic signals at designated City of Urbana intersections; and maintaining and repairing school crossing signals. Performs snow removal duties as assigned.

Employees in this job classification are designated as essential employees who may be called to report to work when City offices are closed due to severe weather or other emergency.

ESSENTIAL FUNCTIONS

1. Actively supports and upholds the City's mission and values.
2. Contributes to supporting the Mayor and City Council's priority of creating safe and inviting neighborhood spaces by servicing and maintaining exterior lighting.
3. Performs maintenance checks and minor repairs on lift stations.
4. Replaces traffic signals as needed or scheduled; adjusts signal heads as needed.
5. Inspects, replaces, and repairs traffic signal timing, traffic signal controllers, and school zone signals.
6. Cleans contacts and other moving parts in controllers; Replaces traffic signal components as needed
7. Locates all City-owned utilities for contractors, utilities, and City crews using cable locator and maps.
8. Cleans up work area.
9. Repairs and maintains holiday lighting system.
10. Installs, maintains, and repairs streetlights and parking lot light circuits using operational vehicles and equipment.

11. Installs wiring, conduit, and raceways in City facilities for lights and receptacles as assigned.
12. Installs electric motors as assigned.
13. Assembles street light controllers; checks electrical operation of diesel emergency power generator.
14. Re-lamps and installs fluorescent lighting ballasts and starters; checks luminaires and luminaire components as assigned.
15. Troubleshoots components and systems as required.
16. Removes snow from streets and parking lots using snowplow, snow blower, end loader, and shovel; spreads salt on streets as assigned.
17. Responds to citizen and customer inquiries or concerns;
18. Acts as a "standby" electrician for responding to emergency calls after normal working hours.
19. Maintains regular and reliable attendance.
20. Demonstrate superior seamless customer service, integrity, and a commitment to innovation, efficiency, and fiscally responsible activity.
21. Contributes to a work environment that encourages knowledge of, respect for, and development of skills to engage with those of other cultures or backgrounds.
22. Contributes to the overall success of the Public Works Department by performing other essential duties and responsibilities as assigned.

JOB REQUIREMENTS

Education & Experience

Any combination of education and experience that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

- Knowledge and abilities typically acquired through a high school diploma, supplemented by 60 hours of coursework in an electronics, electrical engineering, or related program; trade school program; or completion of a recognized electrical apprenticeship program; and
- At least two (2) years of experience in an electrical trade, typically associated with the installation, maintenance and repair of electrical devices.
- Other combinations of experience and education that meet the minimum requirements may be substituted.

Knowledge of

- Standard practices, materials, tools, and equipment used in electrical trade work.
- Occupational hazards and safety precautions necessary in electrical work.
- Operation of electrical testing devices and instruments.
- National Electric Code and relevant City codes.
- Principles of electrical theory as applied to circuits in wiring and ability to apply knowledge to work problems.
- Standard specifications for traffic signals and street lighting, including roadway lighting design fundamentals, lamp and luminaire components, and pole and high mast components.

Skills

- Skill in use and care of manual and electrical maintenance and testing tools and equipment.

Ability to

- Safely apply standard practices and principles of basic roadway lighting and traffic signal maintenance and repair.
- Diagnose operating defects in electrical systems and apparatus.
- Perform tasks under adverse weather conditions.
- Detect defects in traffic signals and school crossing signals.
- Safely operate City vehicles, such as an aerial truck requiring a State of Illinois Class B commercial driver's license with an air brake endorsement.
- Safely operate and maintain City equipment.
- Use graphic instructions such as blueprints, schematic drawings, layouts, or other visual aids.
- Work cooperatively with others.
- Communicate clearly and effectively, both verbally and in writing.
- Establish and maintain effective working relationships with City staff and the general public.

Licenses, Certifications and Memberships Required

- Must possess or obtain within six (6) months of employment a State of Illinois Class B commercial driver's license (CDL) with Air Brake endorsement.
- Must possess an International Municipal Signal Association (IMSA) Roadway Lighting Technician Level I certification or obtain one within one (1) year of employment.

Special Requirements

- Employees in this classification are designated as Emergency/Essential and may be required to work overtime with little or no advance notice. Employees in this classification may be subject to standby duty for after-hours emergencies on a rotating basis.
- The incumbent has considerable ongoing responsibility for public safety, as characterized by regularly scheduled duties including: 1) dealing with emergencies that directly affect the safety of the public, and 2) operating equipment or machines for which the consequences of operator error include significant property damage and/or threaten serious injury to self or others.
- Responsible for assessing emergency situations; correcting or controlling situations.

Security Level

- Level CDL: Must demonstrate the ability to perform safety-sensitive functions in accordance with federal requirements.
- Level PHYS: Must demonstrate the ability to perform essential functions that require physical agility as noted in the job description, with or without reasonable accommodations.

Contacts:

The purpose of interactions occurring during the normal scope of work involve advising, planning, or coordinating work efforts with other City employees, utilities, contractors, members of the public, or others who are working toward common goals and where relationships are generally cooperative. Contacts are moderately structured and routine.

Job Dimensions

Supervision received

Electricians are supervised by the Electrical Supervisor, however, generally work independently under established guidelines and with minimum supervision.

Level and complexity of supervision exercised

This position is not responsible for supervising any staff positions.

Physical Demands and Working Conditions

The work environment involves potential high risk and/or stress due to exposure to dangerous situations, hazardous materials, and/or unusual environmental stress from working in high-risk situations and/or high noise levels, poor ventilation, and/or extremes of heat or cold. Protective gear and/or special equipment is normally required.

Work requires considerable and strenuous physical exertion such as climbing ladders, frequent lifting of objects over 50 pounds, crawling or crouching in restricted areas. Occasional lifting of heavy objects weighing 75 pounds or more is required. The work environment and physical demands may include: making precise arm-hand positioning movements (i.e., operates an electric hand drill); lifting arms above shoulder level to work in ceiling areas, on light fixtures, or on traffic signals; working in small, cramped areas such as ceiling crawl spaces, equipment enclosures, closets, etc. Climbing ladders or steps to reach work areas; working at heights greater than ten feet; remaining in a standing position for extended periods of time; working outside year-round in a variety of weather conditions with exposure to the outdoor elements; moving heavy objects (50 pounds or more) long distances (more than 20 feet); traveling across rough, uneven, or rocky surfaces; lifting heavy objects (motors, conduit, and ladders) up to 75 lbs.; using power tools and hand tools; climbing stairways, ladders, and work on elevated structures (some electrical equipment is located on top of elevated structures); working in a stationary position for considerable periods of time (i.e. wiring motors, kneeling, standing, and sitting); extensive reading and close vision work (reading blueprint and diagrams); exposure to heat, cold, dampness, dust, pollen, odors, fumes, etc.; exposure to hazards of electrical shock, falls, noise, equipment operation, etc.; and may require working extended hours (electricians are assigned stand-by shifts outside their normal work shift and may be called for emergencies).

Vision/Hearing

Able to see in the normal visual range with or without correction; vision sufficient to read computer screens and printed documents; visually inspect work in progress. Able to distinguish between the full range of colors in the color spectrum to work with electrical wires and/or traffic signal lights. Able to hear in the normal audio range with or without correction.

The work environment characteristics and physical demands described are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

The duties listed above are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related or a logical assignment to the position.

The job description does not constitute an employment agreement between the employer and employee and is subject to change by the employer as the needs of the employer and requirements of the job change.

Class Specification History

General revision: June 28, 2021

General revision: February 6, 2019

General revision: Nov. 1994

For HR/Finance Use

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