

POSITION DUTY STATEMENT

PM-0924 (REV 01/2022)

CLASSIFICATION TITLE CT Electrician II	OFFICE/BRANCH/SECTION District 01/Maintenance/Special Crews/Electrical Crew	
WORKING TITLE Electrician II	POSITION NUMBER 901-652-6924-918	REVISION DATE

As a valued member of the Caltrans leadership team, you make it possible for the Department to provide a safe and reliable transportation network that serves all people and respects the environment.

GENERAL STATEMENT:

This position is considered the full journey level for this class. Under direction of a Caltrans Electrical Supervisor incumbents are responsible for the installation, maintenance, troubleshooting and repair of electrical and electronic devices associated with state facilities. Incumbents may also perform lead work as required involving but not limited to office duties, and lower level electrical positions. This position requires the operation of light trucks, personnel hoists, vans and automotive vehicles.. Incumbent may drive heavy trucks, if properly licensed. With training and certification where necessary, incumbent may be required to operate equipment such as trenchers, forklifts, air quality monitors, hoists and cranes. Must possess a valid Class C driver's license, Class A or B highly desirable.

Duties include but are not limited to:

CORE COMPETENCIES:

As a CT Electrician II, the incumbent is expected to become proficient in the following competencies as described below in order to successfully perform the essential functions of the job, while adhering to and promoting the Department's Mission, Vision, Values, Strategic Imperatives and Goals. Effective development of the identified Core Competencies fosters the advancement of the following Leadership Competencies: Change Commitment, Risk Appetite, Self-Development/Growth, Conflict Management, Relationship Building, Organizational Awareness, Communication, Strategic Perspective, and Results Driven.

- **Flexibility and Managing Uncertainty** : Adjusts thinking and behavior in order to adapt to changes in the job and work environment. (Safety First, Cultivate Excellence, Enhance and Connect the Multimodal Transportation Network, Advance Equity and Livability in all Communities - Engagement, Equity, Innovation, Integrity)
- **Dealing with Ambiguity (Risk)**: Can comfortably handle risk and uncertainty, as well as make decisions to act without having the total picture. (Strengthen Stewardship and Drive Efficiency - Engagement, Innovation, Integrity)
- **Initiative**: Ability to identify what needs to be done and doing it before being asked or required by the situation. Seeks out others involved in a situation to learn their perspectives. (Strengthen Stewardship and Drive Efficiency - Engagement, Integrity)
- **Conflict Management**: Recognizes differences in opinions and encourages open discussion. Uses appropriate interpersonal styles. Finds agreement on issues as appropriate. Deals effectively with others in conflict situation. (Safety First - Engagement, Integrity)
- **Teamwork/Partnership**: Develops, maintains, and strengthens partnerships with others inside or outside of the organization through effective communication and collaboration. (Cultivate Excellence, Strengthen Stewardship and Drive Efficiency - Engagement, Innovation, Integrity)
- **Organizational Awareness**: Contributes to the organization by understanding and aligning actions with the organization's strategic plan, including the mission, vision, goals, core functions, and values. (Cultivate Excellence, Enhance and Connect the Multimodal Transportation Network, Advance Equity and Livability in all Communities - Engagement, Integrity)
- **Interpersonal Effectiveness** : Effectively and appropriately interacts and communicates with others to build positive, constructive, professional relationships. Tailors communication style based on the audience. Provides and is receptive to feedback. (Safety First, Cultivate Excellence - Engagement, Integrity)
- **Forward Thinking**: Anticipates the implications and consequences of situations and takes appropriate actions to be prepared for possible contingencies. Anticipates and prepares for future developments. (Cultivate Excellence, Enhance and Connect the Multimodal Transportation Network, Advance Equity and Livability in all Communities - Engagement, Integrity)
- **Thoroughness**: Ensures that work and information is complete and accurate. Ensures that assignment goals, objectives, and completion dates are met. Documents and reports on work progress. (Cultivate Excellence, Strengthen Stewardship and Drive Efficiency - Engagement)

TYPICAL DUTIES:

Percentage	Job Description
Essential (E)/Marginal (M) ¹	

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60%	E	Construct, maintain, troubleshoot and repair traffic signal systems, changeable message signs, extinguishable message signs, ramp metering systems, traffic count equipment, video surveillance and detection equipment, highway advisory radio equipment, building electrical systems, pumping plants, stationary bridge systems, movable span bridge equipment, scale house systems, rest area systems, and highway lighting equipment.
20%	E	Inspect and operate equipment utilized in the performance of electrical work associated with state facilities. Equipment will include (with CDL), but not be limited to: light trucks, personnel hoists, trenchers, backhoes, forklifts, pavement saws, pipe threading equipment, conduit benders, voltage meters, resistance meters, amperage meters, high potential tester, hit-sticks, power monitoring equipment, air quality monitoring equipment, manual digging tools, electrical hand tools and battery test equipment.
15%	E	Assist with materials acquisition requests, cost estimates and repair time projections. Act as a lead worker and train less experienced personnel in the duties required of a Caltrans Electrician. Maintain work logs, daily time keeping and maintenance records, and provide for input of it to computer databases. Attend state provided training classes, pertinent to the maintenance activities associated with state facilities and achieve certification status where necessary.
5%		Remove graffiti from light poles, cabinets and other electrical facilities' clean and paint electrical facilities' wash state owned vehicles. Independently load and unload materials and equipment into a state vehicle or building.

¹ESSENTIAL FUNCTIONS are the core duties of the position that cannot be reassigned.

MARGINAL FUNCTIONS are the minor tasks of the position that can be assigned to others.

SUPERVISION OR GUIDANCE EXERCISED OVER OTHERS

This position does not supervise, but may function in a lead worker capacity when assigned by the supervisor and when working with less experienced electrical personnel.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Knowledge: Safety precautions and work procedures required in the maintenance and installation of traffic signal systems, stationary bridge systems, movable span systems, building code, highway information systems, highway lighting systems, pump plants and rest areas.

Abilities: Make rough sketches and drawings related to electrical work. Read and interpret standard plans, specifications, schematics, maintenance manuals and manufacturer requirements. Estimate, order and install materials and generate written work reports. Troubleshoot and repair state facilities. Work independently, but be able to establish effective communication and cooperation with other personnel assigned to a project. Inspect and write detailed reports regarding electrical projects. Instruct unskilled and semi-skilled assistants. Act as a lead worker. Establish a safe work environment.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

Errors in judgment, decision making and troubleshooting skills could effect public safety or result in tort liability for the department. The work environment could also be rendered unsafe for employees involved in the project.

PUBLIC AND INTERNAL CONTACTS

Required to maintain good relations with members of the public and employees from the same and other departments within Caltrans, as well as other agencies. May have contact with other public agencies and private individuals almost daily in the course of assignment. Contact may be with hostile public, and incumbent is expected to maintain a favorable public image for the State.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

Much of this position is labor intensive. Incumbent must have physical ability to react quickly to errant motorist and do strenuous hand and mechanical labor.

Note: For standing, walking and sitting, along with several other activities, typical duties are used as examples in various situations to give ranges for the activities. Generally, activities can be broken down into operating equipment and light vehicles 18% of the time on a year-around basis. The remainder of the activity is labor.

Standing, Sitting and Walking are described to equal 100% of the work time for a given period such as a work shift. The following are various situations and percentages given to illustrate typical ranges of time spent sitting, standing and walking:

A. Rainy day where worker is digging out clogged ditches and drains: Standing and walking using hand tools 40% each: Sitting and driving 50%.

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- B. Snowy day: Sitting and operating trucks (Class C), loaders, motor graders 70%; walking and standing, checking out equipment, 30%
- C. Crack sealing: Standing and walking 95% of the day
- D. Paving: Operating trucks, motor-graders, loaders, pavers, 45% of day. Standing and walking, raking and shoveling, 45% of day.
- E. Litter pickup/patrol: Lifting, walking and climbing in/out of vehicle 95% of day
- F. Flagging/Pilot Car/Lane Closure Operations: Standing, twisting and turning, and sitting 95% of the day

LIFTING (Floor to bench to Floor) – Items listed may be any of the following but not limited to: tire chains for vehicles which may weigh as much as 75 lbs. per chain. In the winter months these could be handled on an every day basis; a post driver which weighs approximately 60 lbs.; assist with the loading and unloading of a tire in a rim which can weigh over 75 lbs. Another example of lifting is shoveling asphalt. Each shovel full lifted weighs approximately 15 lbs., and 1,000 to 1,500 lbs. of sand or asphalt per day, would normally be lifted. 80% of this lifting would be floor to waist and 20% lifted above the waist. Installing marker post, at least two feet into the ground, requires lifting up and pulling down the 60 lb. driver 10 to 30 strokes per post, worker could install up to 40 markers per day.

Another type of lifting is light pickup – loading garbage bags with litter, which requires continuous bending and lifting.

CARRYING – Bagged/boxed material, which may weigh 50 to 95 lbs., must be carried from storage areas to vehicles and from vehicles to job sites, which may be on uneven terrain. Tools are carried a few feet to 100 yards and weigh a few pounds to 50 lbs. each. Tools carried include picks, hoes, rakes, hoses, signs, standards, flags, cones, guide posts, etc. and may be carried on uneven terrain.

OVERHEAD REACHING – Overhead work includes pulling yourself up into many types of equipment from 0 to 30 times per day, pruning, holding up signs off a ladder, servicing equipment on the lube hoist, signaling other workers, and throwing/loading material in equipment.

OTHER REACHING – Setting cones, lubing and checking equipment, raking, shoveling, driving, using digging bar, shifting, holding signs picking up cones; often done on a continuous basis, over 60% of the work shift.

PUSHING/PULLING – Shoveling, opening garage doors, hooking up trailers; installing plows, sanders, kettles, pulling on hoses, working cranks on equipment stands; tightening and loosening nuts on bolts. Installing and removing tires and chains; pulling down on post drivers. Pulling brush and limbs, animal carcasses, and pulling chains. Using a pole saw.

TWISTING - The Operator twist while driving equipment and does so on a continuous basis, especially while backing up or turning around while operating a pilot car. Other twisting is done while dragging brush, shoveling, raking and setting down and picking up traffic cones which weigh 10 pounds each.

CLIMBING/BALANCING – Climbing is done in and out of equipment, up and down banks and used in fine manipulation of a chain slopes, ladders, stairways, (often carrying a load of material or supplies); onto steps and walkways to do engine checks on equipment. One example would be to climb on a heavy equipment trailer to secure the load with chain binders.

BENDING/CROUCHING/SQUATTING/CRAWLING – The Operator often bends continuously throughout the day while operating equipment and performing physical labor. All of these activities are necessary when picking up and laying down tools and material. The Operator also crawls around and underneath equipment while checking and servicing equipment, putting on or removing snow chains and tightening and/or assisting the replacement of various types of vehicles cutting blades.

SIMPLE GRASPING – This activity is necessary about 95% of the shift; climbing in/out and around equipment, operating equipment, using hand tools and handling materials.

FINE MANIPULATION– This occurs less than 2% of a day and usually while writing reports or manipulating the knobs and levers on the equipment. A higher percentage of the time would be operating a chain saw, weed eater or similar equipment.

Importance of hearing and sight – both are essential on the job because the operator must hear directions and equipment, and must see in order to perform his/her duty safely.

Hearing should be adequate to hear warning devices used for worker safety, i.e. look out alarm devices, including vehicle horns used to warn employees of eminent danger at the work site. Corrected hearing is acceptable.

Sight needs to be corrected to the State of California Department of Motor Vehicles standards for safe vehicle driving. Night vision must be good for safety when working after dark.

WORK ENVIRONMENT

The Caltrans Electrician II may work under various climates and conditions. Work may be performed inside of climate controlled buildings, but most operations will take place alongside, over or upon state highways and right of way. The incumbent will be exposed to noise, inclement weather, dirt, odors, uneven surfaces, heights up to 550 ft above pavement or water, confined spaces, concrete products, cleaning solvents, high speed traffic conditions and moving construction equipment. The incumbent

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must be willing to work odd hours, weekends and be available for trouble calls outs.

I have read, understand and can perform the duties listed above. (If you believe you may require reasonable accommodation, please discuss this with your hiring supervisor. If you are unsure whether you require reasonable accommodation, inform the hiring supervisor who will discuss your concerns with the Reasonable Accommodation Coordinator.)

EMPLOYEE (Print)

EMPLOYEE (Signature)

DATE

I have discussed the duties with, and provided a copy of this duty statement to the employee named above.

SUPERVISOR (Print)

SUPERVISOR (Signature)

DATE

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