

**State of Michigan
Civil Service Commission**
Capitol Commons Center, P.O. Box 30002
Lansing, MI 48909

Position Code
1. ELECLICEA31R

POSITION DESCRIPTION

This position description serves as the official classification document of record for this position. Please complete the information as accurately as you can as the position description is used to determine the proper classification of the position.

2. Employee's Name (Last, First, M.I.)	8. Department/Agency TRANSPORTATION CENTRAL OFFICE
3. Employee Identification Number	9. Bureau (Institution, Board, or Commission) Highways
4. Civil Service Position Code Description ELECTRICIAN MASTER LICENSD-E	10. Division Transportation
5. Working Title (What the agency calls the position) Master Electrician	11. Section Bay Region
6. Name and Position Code Description of Direct Supervisor MCDONNELL, RYAN J; ENGINEER MANAGER LICENSED-3	12. Unit Operations / Traffic & Safety
7. Name and Position Code Description of Second Level Supervisor GARZA, JASON M; ENGINEER MANAGER LICENSED-4	13. Work Location (City and Address)/Hours of Work 3510 E. Washington, Saginaw, MI 48601 / M-F, 6:00am-4:30pm (hours may vary)

14. General Summary of Function/Purpose of Position

Responsible for the maintenance of all roadway electrical devices and electrical equipment for the Bay Region. This position performs work independently or as part of an electrician work group to address the state trunkline electrical needs within the Bay Region. Serve as the Licensed Master Electrician on the jobsite and pull permits as required by law. Responsibilities include installing, upgrading, and performing routine and emergency repairs of signals, freeway lighting, pump stations, MDOT facilities, Intelligent Transportation Systems (ITS), and related electronic equipment. This position may inspect the work of contractors hired by MDOT to install signals and freeway lighting to assure that all work conforms to specifications and the electrical code as regulated by the Michigan Department of Licensing and Regulatory Affairs (LARA) and accept contracted work. May also inspect preventative maintenance work of contractors and contract agencies.

The duties of this position require the incumbent to drive an aerial bucket truck weighing more than 26,000 pounds with occasional towing requirements (e.g., work trailer, arrow board). The incumbent is also required to operate the aerial lift equipment in order to perform the duties of this position. Duties which will require the use of this equipment include, but are not limited to, installing and/or repairing aerial traffic signal equipment, setting poles and pedestals, installing and/or repairing overhead wires and cables, and installing and/or repairing lighting at MDOT facilities.

15. Please describe the assigned duties, percent of time spent performing each duty, and what is done to complete each duty.

List the duties from most important to least important. The total percentage of all duties performed must equal 100 percent.

Duty 1

General Summary:

Percentage: 55

As the Region Electrician, perform maintenance, installation, repair, and inspection of electrical devices including traffic signals, freeway lighting, MDOT facilities, ITS, pump stations, and other electronic traffic control equipment. Pull permits when necessary. Act independently or as part of an electrical work group to address the assigned task.

Most repairs and maintenance on electrical devices must be performed while circuits are energized to ensure safety of the motoring public.

Individual tasks related to the duty:

- Troubleshoot, install, and/or repair electrical hardware in the field or at Michigan Department of Transportation (MDOT) facilities.
- Interpret and apply knowledge of special circuits, equipment, their operation, timing, and software to traffic control signals and other equipment.
- Perform routine maintenance on a continuous basis for all electrical traffic control devices.
- Set up temporary traffic control for motorist safety and to maintain proper closures according to MOOT procedures.
- Obtain required permits as required by law.
- Measure, cut, bend, thread, assemble, and/or install electrical conduit, junction switches, outlet boxes, handholes, signal heads, pedestrian signal assemblies, signal controllers, and signal communications equipment (e.g., radios and/or modems) by utilizing hand tools and special equipment such as mechanical drills, cutters, benders, and threaders.
- Provide as-needed emergency traffic signal maintenance on a 24 hours per day, 7 days per week basis in all weather conditions.
- Repair and maintain electrical devices while circuits are energized in order to minimize impacts to the motoring public.
- Review preliminary plans for traffic signal work and make recommendations to the Engineer Manager.
- Confer with MDOT engineers, contractors, public utilities, city and county engineering departments, or consultants regarding coordination of traffic signal construction and maintenance activities.

Duty 2

General Summary:

Percentage: 15

Procure materials and/or equipment and maintain accurate records for work on all electrical traffic control devices. This includes, but is not limited to, electrician job reports, billing and invoice documentation, emergency repair documentation, timing permits, inventory stores, and equipment documentation.

Individual tasks related to the duty:

- Maintain up to date store and equipment documentation. Order and stock materials after obtaining supervisor's approval.
- Perform special requests for temporary and/or permanent traffic control timing changes or improvement as requested by Transportation Service Centers (TSCs), Region, or Lansing Operations staff and maintain documentation of said changes.
- Perform work necessary to modernize traffic signal equipment as assigned with Transportation Work Authorizations.
- Assist or perform work on new or modernized traffic control equipment and freeway lighting installations using blueprints, schematics, and written instructions along with knowledge of the principles, electrical codes, and materials of the electrical trade.
- Layout and install equipment for traffic signals and freeway lighting.
- Advise administrators and vehicle fleet coordinators regarding selection and/or purchasing of heavy equipment needed for traffic signal maintenance activities.

Duty 3

General Summary:

Percentage: 15

Communication and coordination of work activities. Inspect the work of MDOT contractors involved in installations and on preventative maintenance on signals, controllers, freeway lighting, MDOT facilities, pump stations, ITS, and related electronic equipment on MDOT trunklines.

Individual tasks related to the duty:

- Contact and coordinate activities with MDOT Lansing Traffic and Safety and Maintenance, Bay Region staff, TSC's, private and public utilities, local agencies, contract agencies, emergency dispatch, Region answering service, and other groups or agencies involved with the work of the electrician.
- Provide direction on placement of detectors and verify location in the field.

- Inspect newly installed signals, ITS, and freeway lighting work which has been performed by contractors. Inspection may be done by visual observation and/or by use of testing equipment to assure that work has been performed in conformance with the state electrical code. Issue written notice of code violation, as necessary, which requires corrective action and includes gathering evidence and the preparation of necessary reports.
- Review all preventative maintenance performed by contractors on MDOT trunklines. This includes reviewing quality of work, compliance with contract, and making recommendations for payment.

Duty 4

General Summary:

Percentage: 5

Attend trainings and meetings to maintain/expand knowledge of traffic signal and other electronic technologies.

Individual tasks related to the duty:

- Attend trainings regarding safety equipment and requirements.
- Attend meetings with contractors, electricians, and other interested groups to discuss State Electrical Code requirements and the State Electrical Act.
- Attend trainings to upgrade skills and to learn new traffic signal products and technologies.
- Attend classes on updates and revisions to the National Electrical Code.

Duty 5

General Summary:

Percentage: 5

Locate and stake MDOT electrical infrastructure as requested in electrical staking request in a timely manner to assist in construction and plan development activities.

Individual tasks related to the duty:

- Coordinate with Bay Region ITS, Pavement Marking, Signing, and Mobility engineer as staking requests are received and completed.
- Review request and proposed work to determine potential impact of MDOT electrical infrastructure.
- Review old plans to determine what MDOT electrical infrastructure is in place and needs to be staked.
- Use appropriate equipment to field stake MDOT facilities.

Duty 6

General Summary:

Percentage: 5

Perform other work related to the position as assigned.

Individual tasks related to the duty:

- Document all work on traffic signals for appropriate billing to local agencies.
- Keep a maintenance record for all electrical traffic control device locations.
- Complete time entry, travel expense vouchers, vehicle time reporting, maintenance job reports and entry, procurement card purchases, and material charges.
- Develop plans and estimates for electrical projects including labor, equipment, and material costs.
- Review plans and proposals and provide comments on signals and/or electrical related projects.
- Assist with maintenance of navigational devices and electrical repairs on bascule bridges and pump houses as requested by Region or Lansing staff,
- Other duties as assigned.

16. Describe the types of decisions made independently in this position and tell who or what is affected by those decisions.

In performing regular maintenance activities, a complete inspection is made of the entire electrical system. If any deficiencies are found, a decision is made as to the importance and whether it needs immediate repair or if it can be scheduled for repair at a later date. This determination is very important because, if a traffic control device malfunctions or is inoperable, the safety of the motoring public may be jeopardized. When troubleshooting an electrical problem, decisions are made as to materials, manpower, and equipment needed. Whenever possible, identify, recommend, and implement improvements in the work methods and materials utilized in the position.

17. Describe the types of decisions that require the supervisor's review.

On unclear issues and items that affect personnel, budget, policy changes, and traffic impacts. If lane closures are needed, the supervisor reviews to ensure that it is properly warranted and set up. When materials and equipment are needed that have a high cost associated with them, the supervisor shall review.

18. What kind of physical effort is used to perform this job? What environmental conditions in this position physically exposed to on the job? Indicate the amount of time and intensity of each activity and condition. Refer to instructions.

The ability to work in all types of weather conditions and a willingness to work non-standard hours in emergency situations. Ability to lift up to 100 pounds, twist, bend, stoop, and stand for long periods of time. Ability to work in a confined space, work in and around heavy and fast-moving traffic, ability to operate heavy equipment, and work from aerial towers and ladders. Manual labor such as digging, installing conduit, and use of other common hand tools and equipment used in electrical construction. Hazards of working around primary electrical lines and working with secondary voltages in adverse weather conditions. Be available outside normal working hours for emergency maintenance situations, in all weather conditions. Electrical service to pumphouses is included under emergency maintenance. The duties of this position require the incumbent to drive an aerial bucket truck weighing more than 26,000 pounds with occasional towing requirements (e.g., work trailer, arrow board).

19. List the names and position code descriptions of each classified employee whom this position immediately supervises or oversees on a full-time, on-going basis.

Additional Subordinates

20. This position's responsibilities for the above-listed employees includes the following (check as many as apply):

<input type="checkbox"/> N	Complete and sign service ratings.	<input type="checkbox"/> N	Assign work.
<input type="checkbox"/> N	Provide formal written counseling.	<input type="checkbox"/> N	Approve work.
<input type="checkbox"/> N	Approve leave requests.	<input type="checkbox"/> N	Review work.
<input type="checkbox"/> N	Approve time and attendance.	<input type="checkbox"/> N	Provide guidance on work methods.
<input type="checkbox"/> N	Orally reprimand.	<input type="checkbox"/> N	Train employees in the work.

22. Do you agree with the responses for items 1 through 20? If not, which items do you disagree with and why?

Yes.

23. What are the essential functions of this position?

Responsible for the maintenance of all roadway electrical devices and electrical equipment for the Bay Region. This position performs work independently or as part of an electrician work group to address the state trunkline electrical needs within the Bay Region. Serve as the Licensed Master Electrician on the jobsite and pull permits as required by law. Responsibilities include installing, upgrading, and performing routine and emergency repairs of signals, freeway lighting, pump stations, MDOT facilities, ITS, and related electronic equipment. This position may inspect the work of contractors hired by MDOT to install signals and freeway lighting to assure that all work conforms to specifications and the electrical code as regulated by the LARA and accept contracted work. May also inspect preventative maintenance work of contractors and contract agencies.

24. Indicate specifically how the position's duties and responsibilities have changed since the position was last reviewed.

Submitting for a PD update due to changes that have occurred since the position was last reviewed including:

- The following has been added to the general summary (box 14), "The duties of this position require the incumbent to drive an aerial bucket truck weighing more than 26,000 pounds with occasional towing requirements (e.g., work trailer, arrow board). The incumbent is also required to operate the aerial lift equipment in order to perform the duties of this position. Duties which will require the use of this equipment include, but are not limited to, installing and/or repairing aerial traffic signal equipment, setting poles and pedestals, installing and/or repairing overhead wires and cables, and installing and/or repairing lighting at MDOT facilities."
- Duty 1 was previously 60% of the positions time and is now 55% of the positions time. Bullets 7, 8, 9, and 10 have been added to the individual tasks related to this duty.
- Duty 2 was previously 20% of the positions time and is now 15% of the positions time. Bullets 5 and 6 have been added to the individual tasks related to this duty.

- Duty 3 remains duty 3 at 15% of the positions time.
- Duty 4 of the old position description was 5% of the positions time and is now part of duty 6, task 6.
- Duty 4 of this position description at 5% is the same as duty 4 of position code ELECLICEA30R.
- Duties 5 and 6 are new duties.
- The "Certificates, Licenses, Registrations" section was updated to add the following, "Subclass Code: CDLT - Possesses a valid Commercial Driver's License. Possession of a Commercial Learner's Permit upon appointment to the position and possession of a CDL Group A with either an N or X endorsement and no air brake restrictions within 12 months of the date of hire into the position."

25. What is the function of the work area and how does this position fit into that function?

Responsible for the maintenance of all roadway electrical devices and electrical equipment in the Bay Region area. This position performs work independently or as part of an electrician work group to address the state trunkline electrical needs within the Bay Region. The primary function of the Traffic & Safety work area is to provide for the safe and efficient movement of the motoring public on the state trunkline system. This position works primarily with the maintenance and construction of traffic control devices, a primary component of any traffic and safety system.

26. What are the minimum education and experience qualifications needed to perform the essential functions of this position.

EDUCATION:

Education typically acquired through completion of high school.

EXPERIENCE:

Electrician Master Licensed E10

No specific type or amount is required beyond that required for licensure.

KNOWLEDGE, SKILLS, AND ABILITIES:

Ability to:

- Work from electrical diagrams, wiring schematics, set up traffic control schemes, and operate some construction equipment.
- Maintain favorable public relations and effective working relationships.
- Perform essential functions of the job.
- Interpret and apply blueprints, schematics, maintenance manuals, and assembly instructions.
- Comprehend new technologies, make mathematical computations, and organize and prioritize work.

Knowledge of:

- Applicable federal, state, and local codes including electrical codes and standards.
- The use of tools of the electrical trade, installation of electrical devices, diagnosing cause of electrical breakdowns, and repairing and adjusting electrical devices.

CERTIFICATES, LICENSES,

REGISTRATIONS:

- Possession of a Master Electrician's License.
- Subclass Code: CDLT - Possesses a valid Commercial Driver's License. Possession of a Commercial Learner's Permit upon appointment to the position and possession of a CDL Group A with either an N or X endorsement and no air brake restrictions within 12 months of the date of hire into the position.

NOTE: Civil Service approval does not constitute agreement with or acceptance of the desired qualifications of this position.

I certify that the information presented in this position description provides a complete and accurate depiction of the duties and responsibilities assigned to this position.

Supervisor

Date

TO BE FILLED OUT BY APPOINTING AUTHORITY

Indicate any exceptions or additions to the statements of employee or supervisors.

None

I certify that the entries on these pages are accurate and complete.

KELSEA COLE

10/19/2023

Appointing Authority

Date

I certify that the information presented in this position description provides a complete and accurate depiction of the duties and responsibilities assigned to this position.

Employee

Date