

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

<b>Position Code</b>
1. ELECTRNEA71R

## 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 Licensed-E	10. Division Bay Region
5. Working Title (What the agency calls the position) Electrician Licensed E9	11. Section Operations
6. Name and Position Code Description of Direct Supervisor MCDONNELL, RYAN J; ENGINEER MANAGER LICENSED-3	12. Unit
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-Th, 6:00am-4:30pm (AWS is available)

**14. General Summary of Function/Purpose of Position**

This position is responsible for the maintenance of all electronic traffic control devices and electrical equipment for the Bay Region. This position is an experienced level that performs work independently or as part of an electrician work group to address the state trunkline electrical needs. Responsibilities of this position include installing, repairing, inspecting, and performing routine and emergency maintenance on traffic signals, freeway lighting, Michigan Department of Transportation (MDOT) facilities, Intelligent Transportation Systems (ITS), and related electronic equipment. This position may inspect the work of contractors hired by MDOT to install signals, ITS equipment, and freeway lighting to ensure that all work conforms to specifications and to the electrical code as regulated by the Michigan Department of Licensing and Regulatory Affairs (LARA).

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: 60**

As a 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. Act independently or as part of an electrical work group to address the assigned tasks.

**Individual tasks related to the duty:**

- Troubleshoot, install, and/or repair electrical hardware in the field or at MDOT facilities. This task requires a knowledge of special circuits, electrical equipment, their operation, timing, and associated software as related to traffic control signals and other electrical equipment.
- Perform routine maintenance, on a regular basis, for all electrical traffic control devices.
- Set up temporary traffic control according to MDOT procedures.
- 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 other 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. Electrical service to pumphouses is included under emergency maintenance.
- 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: 20**

Procure materials and/or equipment and maintain accurate records for work performed 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:**

- Keep all stores and equipment documentation up to date.
- Order and stock materials with supervisor's approval.
- Program temporary and/or permanent traffic signal timing changes as requested by Transportation Service Center (TSC), 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.
- Utilize plans, schematics, and/or written instructions along with knowledge of the principles, electrical codes, and materials of the electrical trade.
- Layout and install equipment for traffic signals.
- 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: 5**

Inspect the work of contractor-installed traffic signal devices, ITS devices, freeway lighting, and/or other related electronic equipment in the Bay Region.

**Individual tasks related to the duty:**

- Provide direction on placement of detectors and verify locations in the field.
- Inspect newly installed traffic signal, ITS, and freeway lighting equipment, ensuring that the work is completed according to specification and electrical codes.
- Provide as-needed inspections of contract agency work on MDOT-owned equipment. Inspection may be performed by visual observation and/or use of testing equipment to ensure that work has been performed in conformance with the state electrical code.
- Issue written notices of code violation, as necessary, which requires corrective action and includes gathering evidence and the preparation of necessary reports.

**Duty 4**

**General Summary:**

**Percentage: 5**

Attend trainings and meetings to maintain and 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.

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

When performing regular maintenance activities, a complete inspection is to be made of the entire electrical system. If any deficiencies are found, a decision is made as to whether or not 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 signal device malfunctions or is inoperable, the safety of the motoring public may be jeopardized. When trouble shooting 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.

Issues and items that impact personnel, budget, policy changes, and traffic impacts.

#### 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.

Be available outside normal working hours for maintenance operations, in all weather conditions. Ability to lift up to 100 lbs; twist, bend, stoop and stand for long periods of time; work in a confined space; work in and around heavy and fast-moving

traffic; and 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. The duties of this position require the employee to drive a vehicle or vehicle/trailer combination weighing more than 26,001 pounds.

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?

This position is responsible for the maintenance of all electronic traffic control devices and electrical equipment for the Bay Region. This position is an experienced level that performs work independently or as part of an electrician work group to address the state trunkline electrical needs. Responsibilities of this position include installing, repairing, inspecting, and performing routine and emergency maintenance on traffic signals, freeway lighting, MDOT facilities, ITS, and related electronic equipment. This position may inspect the work of contractors hired by MDOT to install signals, ITS equipment, and freeway lighting to ensure that all work conforms to specifications and to the electrical code as regulated by LARA.

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

New 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 Licensed E9**

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

**KNOWLEDGE, SKILLS, AND ABILITIES:**

Knowledge of:

- Electronic control circuits and electric power line construction.
- Electrical codes and electrical installation, repair, and maintenance.

- Electrical inspection techniques and practices.
- Signal controllers.

Skill in:

- Effectively communicating.
- The operation of laptop computers.
- Diagnosing the cause of signal malfunctions.

Ability to:

- Plan, schedule, and obtain supplies and materials needed to complete the job.
- Interpret and apply codes, laws, and regulations relative to the work.
- Drive and work from aerial equipment.
- Work under extreme weather conditions and environmental conditions of work site.
- Read, interpret, or explain applicable standards, technical literature, regulations, plans, and specifications.
- Accurately and clearly complete required paperwork.
- Read and interpret traffic signal design and construction plans and specifications.

**CERTIFICATES, LICENSES,  
REGISTRATIONS:**

- Possession of a Journeyman 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.***

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Supervisor

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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.***

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KELSEA COLE

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10/4/2023

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Appointing Authority

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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.***

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Employee

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Date