

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

<b>Position Code</b> 1. TRAENGED91R
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## 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.

<b>2. Employee's Name (Last, First, M.I.)</b>	<b>8. Department/Agency</b> TRANSPORTATION CENTRAL OFFICE
<b>3. Employee Identification Number</b>	<b>9. Bureau (Institution, Board, or Commission)</b> Bureau of Development
<b>4. Civil Service Position Code Description</b> TRANSPORTATION ENGINEER-E	<b>10. Division</b> Design Division
<b>5. Working Title (What the agency calls the position)</b> Electrical Design Engineer	<b>11. Section</b> Design Production Section
<b>6. Name and Position Code Description of Direct Supervisor</b> BROWN, RYAN P; ENGINEER MANAGER LICENSED-3	<b>12. Unit</b> Road and Municipal Utility Design Unit
<b>7. Name and Position Code Description of Second Level Supervisor</b> MILLER, NATHAN J; ENGINEER MANAGER LICENSED-4	<b>13. Work Location (City and Address)/Hours of Work</b> 425 West Ottawa Street, Lansing, MI 48933 / M-F, 7:30am-4:30pm (hours may vary)

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

This position is responsible for electrical engineering assignments which involve the design and development of freeway lighting and other project electrical components, including tower lighting, pumphouses and lift stations, rest areas and welcome centers, weigh stations, carpool lot lighting, and other related features. This position reviews design plans, design calculations, cost estimations, and recommendations prepared by consultants and other engineers for completeness, mathematical accuracy, and conformity to engineering practices and standards.

**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: 40**

Perform electrical engineering assignments including designing, reviewing, and/or preparing deliverables for the construction of freeway lighting for routine projects including but not limited to, carpool lot lighting, rest area lighting, municipal lighting, and bridge lighting.

**Individual tasks related to the duty:**

- Assist the Lighting Specialist in performing electrical engineering design work including reviewing or designing plans and specifications for the electrical components of freeway lighting utilizing Michigan Department of Transportation (MDOT) design and drafting guidelines and standards. This entails initial design coordination (e.g., reviewing consultant plans or developing plans), luminaire performance calculation and/or verification (e.g., determining how much light/poles is needed for the project), utility coordination, construction, and close-out coordination.
- Review cost comparisons and engineer estimates for projects and make recommendations for revisions to the Statewide Lighting Specialist.
- Attend meetings such as on-site reviews, Plan Reviews, and Final Project Coordination (FPC) meetings and propose changes to project plans to the Statewide Lighting Specialist.
- Utilize design software including Open Roads Designer to prepare project deliverables.
- Work with MDOT staff to coordinate engineering assignments for routine freeway lighting projects.
- Review routine freeway lighting projects or other electrical projects to ensure lighting complies with MDOT specifications. This entails reviewing special provisions to validate whether it is identified in the MDOT spec book or not. If not in MDOT spec book, review and recommend approval/denial to Lighting Specialist.

**Duty 2**

**General Summary:**

**Percentage: 40**

Under direct supervision, review consultant-designed freeway project statewide.

**Individual tasks related to the duty:**

- Provide assistance to consultants on project-related design issues for assigned projects.
- Review lighting and electrical plans for letting readiness of lighting plans for lettings for compliance with MDOT design specifications. Provide recommendation to Statewide Letting Specialist for approval and/or changes needed.
- Utilize MDOT ProjectWise data management system to enter, update, and retrieve data.
- Perform project related tasks including attending meetings, maintaining files, completing project site progress trips, etc.
- Participate in required public meetings for projects and support the Statewide Lighting Specialist in meeting coordination.

**Duty 3**

**General Summary:**

**Percentage: 10**

Perform engineering duties that are required to apply MDOT lighting standards (e.g., design manuals, standard plans, special details, guidelines, American Association of State Highway and Transportation Officials (AASHTO) policies, federal requirements) to assist in design projects and resolve

**Individual tasks related to the duty:**

- Interpret and properly implement MDOT design guides and drafting standards on the development of assigned projects.
- Interpret and properly implement guides and standards of external resources such as AASHTO, Federal Highway Administration (FHWA), etc., in design plans.
- Draft special provisions to modify existing specifications or to provide instructions to contractors for review and approval by the Statewide Lighting Specialist.
- Respond to staff questions regarding whether or not a manufacturers product is on the qualified products list or is in review to be on the list.

**Duty 4**

**General Summary:**

**Percentage: 10**

Perform other related work as assigned.

**Individual tasks related to the duty:**

- Assist the Unit, Section, or other areas within the Design Division as needed.
- Maintain records and prepare reports and correspondence related to the work.
- Perform piloting of project development processes which includes working with engineering support to test new items in OpenRoads Designer.
- Perform field evaluations on projects related to innovative processes as needed.
- 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.**

Personal engineering judgment based upon prior experiences. Wherever 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.**

When there is a need for interpretation of MDOT guidelines, policies, or procedures or when an existing policy is unclear. Design situations not covered by MDOT guidelines or standards. Interpretation of complex design issues. Any area not covered by specific instruction or within established policy.

**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.**

Working in an office setting, including working from a computer for long periods of time. Travel to projects and offices region wide. Occasional field reviews of proposed construction projects require traversing irregular terrain. Field work often requires working adjacent to traffic and driving/riding for several hours. Position may require availability outside normal working hours based on operational need.

**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"/> Complete and sign service ratings. | <input type="checkbox"/> Assign work.                      |
| <input type="checkbox"/> Provide formal written counseling. | <input type="checkbox"/> Approve work.                     |
| <input type="checkbox"/> Approve leave requests.            | <input type="checkbox"/> Review work.                      |
| <input type="checkbox"/> Approve time and attendance.       | <input type="checkbox"/> Provide guidance on work methods. |
| <input type="checkbox"/> Orally reprimand.                  | <input type="checkbox"/> 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 electrical engineering assignments which involve the design and development of freeway lighting and other project electrical components, including tower lighting, pumphouses and lift stations, rest areas and welcome centers, weigh stations, carpool lot lighting, and other related features. This position reviews design plans, design calculations, cost estimations, and recommendations prepared by consultants and other engineers for completeness, mathematical accuracy, and conformity to engineering practices and standards.

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

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

The Road and Municipal Utility Design Unit functions as both an autonomous and support unit within the Department as workload and needs warrant. This position is intended to act as a resource for both road and the municipal utility Staff within the Unit to utilize to facilitate the successful completion of projects. Additionally, because of the unique nature of the work performed by the municipal utility Staff, this position serves to support the critical tasks performed and ensure an adequate retention of knowledge within the Unit.

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

**EDUCATION:**

Possession of a Bachelor of Science degree in engineering.

Possession of a Bachelor of Science degree in electrical engineering is preferred.

**EXPERIENCE:**

**Transportation Engineer 9**

No specific type or amount is required.

**Transportation Engineer 10**

One year of professional engineering experience involved in transportation systems and programs equivalent to a Transportation Engineer 9.

**Transportation Engineer P11**

Two years of professional engineering experience involved in transportation systems and programs equivalent to a Transportation Engineer, including one year equivalent to a Transportation Engineer 10.

**Alternate Education and Experience**

**Transportation Engineer 9 - 12**

Possession of a registered professional engineer license as required by the State of Michigan may be substituted for 6 months of experience at the Transportation Engineer 9-12 levels. This substitution may only be used once for any employee for qualification of appointment or early reclassification.

**KNOWLEDGE, SKILLS, AND ABILITIES:**

Knowledge of:

- Transportation engineering principles.
- Mathematics.

Ability to:

- Work with MicroStation and OpenRoads Designer.
- Work cooperatively on a team.
- Communicate effectively.
- Solve problems utilizing problem solving skills.

**CERTIFICATES, LICENSES,  
REGISTRATIONS:**

N/A

*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.***

ASHLEY PARSONS

4/14/2025

_____	_____
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