

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

Position Code

1.

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) Highway Operations
4. Civil Service Position Code Description TRANSPORTATION ENGINEER-E	10. Division Grand Region
5. Working Title (What the agency calls the position) Region Bridge Program and Inspection Engineer	11. Section Development
6. Name and Position Code Description of Direct Supervisor WILSON, MICHAEL; ENGINEER MANAGER LICENSED-3	12. Unit Bridge Management
7. Name and Position Code Description of Second Level Supervisor ROZEMA, SUSAN; Engineer Manager Lic. 4	13. Work Location (City and Address)/Hours of Work 1420 Front Avenue, NW, Grand Rapids, MI 49504 / 7:30am-4:30pm, Monday-Friday (hours may vary)

14. General Summary of Function/Purpose of Position

This position functions as a Transportation Engineer for Programming Bridge Projects, Bridge Program Development, Quality Assurance/Quality Control (QA/QC) and bridge inspection needs. The position is responsible for assisting in the implementation of the region wide strategy for preserving and improving the region wide bridge network. In general, the position responsibilities include bridge project estimating, bridge design (by monitoring Michigan Department of Transportation (MDOT) contract designs), assistance in the annual call for projects, strategic planning, bridge design plan review, bridge plan (project) QA/QC, bridge scoping, field inspection, network monitoring, and data administration.

The duties of this position require the incumbent to operate a vehicle and/or vehicle trailer combination (e.g., aerial lift truck and 3/4 ton pickup with boat trailer) with a Gross Vehicle Weight Rating (GVWR) of between 10,001 and 26,000 pounds when performing hands-on inspection of beam ends, deck bottom, etc. and when performing inspections on bridges over water.

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: 50

Responsible for assisting the Region Bridge Engineer to identify needs, prioritize needs, and recommend potential maintenance, rehabilitation, or replacement activities for Call For Projects (CFP) submittal to meet statewide/Region strategy for bridge network improvement.

This duty requires operating a vehicle or vehicle/trailer combination with a GVWR of between 10,001 and 26,000 pounds.

Individual tasks related to the duty:

- Research old plans to utilize for project estimates (e.g. length and width of bridge to determine bridge deck area, etc.).
- As a member of the bridge team, attend on site field reviews to determine existing situation and future needs
- Gather information related to bridge maintenance issues from TSC, Lansing, and Region staff.
- Use MiBridge and other tools to assist in the development a region network level strategy with preservation/modernization and maintenance components, that is consistent with the Strategic Investment Plan for Trunkline Bridges.
- Assist senior staff with choosing bridges to be included in the preliminary CFP list based on strategic bridge plan.
- Develop cost estimates of proposed work utilizing cost estimate worksheet and submit to senior staff for review.
- Program projects using department software such as JobNet.
- Gather information from Region Development staff related to road projects to assist in preparing and implementing a coordinated trunkline improvement program.
- Serve as a representative of Region Bridge Staff at Scope Verification and Plan Review Meetings as necessary and as assigned
- Prepare and analyze financial reports as necessary to assist in financial monitoring and fiscal constraint. Review and monitor financial reports and budgets, bringing any areas of concern to the Region Bridge Engineer.
- Assist with developing a list of potential structures for future scoping needs-based asset management strategies identified in CFP.

Individual tasks related to the duty:

Duty 3

General Summary:

Percentage: 40

Responsible for performing bridge and culvert inspections under the direction of a Qualified Team Leader (QTL) and conducting research on bridge maintenance issues, taking notes on the condition of structures, and gathering information for bridge inspection reports for National Bridge Inventory structures.

This duty requires operating a vehicle or vehicle/trailer combination with a GVWR of between 10,001 and 26,000 pounds.

Individual tasks related to the duty:

- Perform bridge and culvert inspections under the direction of a QTL.
- Conduct research on bridge maintenance issues, take notes on the condition of structures, and gather information for bridge inspection reports.
- Based on visual observations, evaluate the existing condition of bridges and culverts in accordance with the National Bridge Inspection Standards (NBIS) and MDOT bridge inspection policies.
- Document field observations reflecting the existing bridge condition on electronic and paper forms such as detailed inspection reports, Bridge Safety Inspection Report (BSIR), Culvert Safety Inspection Report (CSIR), Element Inspection Data, and the Structure Inventory & Appraisal form.
- Provide the Bridge Engineer maintenance work crew recommendations as identified on the Bridge Inspection Form.
- After construction or maintenance is performed on a structure, assist as needed with inventory inspection.
- Monitor, evaluate, and report on the performance of maintenance and rehabilitation activities to ensure quality and the desired objectives.
- Utilize department computer programs such as MiBridge to input inspections and manage the region bridge inventory.

Duty 4

General Summary:

Percentage: 5

Assist the Region Bridge Engineer in tasks associated with consultant contract administration for projects including, but not limited to, estimating construction costs, coordinating development of special projects, and reviewing plan documents, etc.

Individual tasks related to the duty:

- Assist in reviewing consultant work products for quality assurance purposes.
- Assist in preparing and reviewing contract documents for assigned projects for review by senior level staff.
- Monitor project costs to keep project manager informed of project progress and consultant's overall performance on the project.
- Assist in preparing evaluations of the consultant's project submittals and overall performance on the project.
- For quality assurance purposes, check various cost estimates utilizing contract pay quantities and average unit prices.

Duty 5

General Summary:

Percentage: 5

Other duties as assigned.

Individual tasks related to the duty:

- 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.

Decisions are made in coordination with senior level staff and management based on bridge design standards, practices, or procedures. As knowledge/experience is gained, independent decisions are made based on bridge design standards, practices, or procedures.

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

Decisions are made in coordination with senior level staff and management based on bridge design standards, practices, or procedures.

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.

This position requires region wide travel and occasional statewide travel. The job also requires working from aerial buckets, ladders, and boats; the ability to work at heights up to 200 feet requiring the use of a bucket truck and/or scaffolding (rarely) or safety harnesses under or alongside the structure while performing bridge maintenance activities; and the ability to climb under bridges, over water, wading in water to probe footings, and continually working near heavy traffic. Must be able to transport up to 100 pounds, which occurs daily. Ability to sustain long periods in confined spaces; wear adequate personal protective equipment; and sustain extensive and repetitive twisting, bending, climbing, lifting, and squatting. Ability to traverse rough terrain and be exposed to outdoor weather elements. Exposure to hazardous materials. Operation of heavy equipment and tools needed to perform highway, roadside, and bridge maintenance. The duties of this position require the incumbent to operate a vehicle and/or vehicle trailer combination with a GVWR of between 10,001 and 26,000 pounds. Position may require availability outside normal working hours based on operational needs.

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):

- | | | | |
|---|------------------------------------|---|-----------------------------------|
| N | Complete and sign service ratings. | N | Assign work. |
| N | Provide formal written counseling. | N | Approve work. |
| N | Approve leave requests. | N | Review work. |
| N | Approve time and attendance. | N | Provide guidance on work methods. |
| N | Orally reprimand. | 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 functions as a Transportation Engineer for Programming Bridge Projects, Bridge Program Development, Quality Assurance/Quality Control (QA/QC) and bridge inspection needs. The position is responsible for assisting in the implementation of the region wide strategy for preserving and improving the region wide bridge network. In general, the position responsibilities include bridge project estimating, bridge design (by monitoring Michigan Department of Transportation (MDOT) contract designs), assistance in the annual call for projects, strategic planning, bridge design plan review, bridge plan (project) QA/QC, bridge scoping, field inspection, network monitoring, and data administration.

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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 work area is responsible for assisting in the development of bridge related projects in the Region and monitoring of existing bridge projects in the development phase. This includes all pre-construction activities, planning, project selection, project scoping, surveys, design, real estate, and general program monitoring. Through Program Management Systems (MiBridge and JobNet) this position provides critical programming support, analysis, and input to determine where our precious financial and human resources should be applied and prioritized to maintain and improve our transportation infrastructure.

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 civil engineering 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.

KNOWLEDGE, SKILLS, AND ABILITIES:

Knowledge of:

- transportation engineering principles and practices utilized in bridge inspection
- methods and techniques used in the maintenance of bridges and culverts
- spreadsheet and database software
- computerized management systems

Ability to:

- communicate effectively
- make mathematical computations
- maintain records and prepare reports
- coordinate interdependent work activities
- schedule and coordinate work activities effectively

**CERTIFICATES, LICENSES,
REGISTRATIONS:**

- Possession of a valid driver's license is required and must be maintained throughout employment.
- Possession of a registered professional engineering license is desirable.
- Completion of FHWA-NHI-130055 Safety Inspection of In-Service Bridges certification is desirable.

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.

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