



Illinois Department of Transportation

Memorandum

To: DEPUTY SECRETARIES, DIRECTORS AND BUREAU CHIEFS
From: Becky Koehler
Bureau Chief of Personnel Management
Subject: Technical Vacancy
Date: May 29, 2018

Attached are the Position Summary Sheet and Position Description for the vacant technical position listed below. Please post this vacancy announcement May 31, 2018 in the designated areas.

The deadline for applicants to submit their applications for consideration is **4:30 p.m. on Wednesday, June 13, 2018**. Applications will not be accepted after that time and date.

NOTE: A copy of each applicant's ACTIVE Illinois Professional Engineer License must accompany application for this position. Please be advised that if a high volume of applications are received, the applications may be screened to establish a smaller pool of applicants for interview. The screening will be based on the information contained in the application.

If you have any questions, please contact the Bureau of Personnel Management at 217/782-5594.

CE IV

Senior Bridge Ratings Engineer
Bureau of Bridges & Structures
Office of Highways Project Implementation
Springfield

Attachments
42852

Technical Applications [PM1080 rev 6/1/17](#)****must be received** by the Bureau of Personnel Management, Room 113, 2300 South Dirksen Parkway, Springfield, IL 62764 (Fax# 217/557-3134) or emailed to DOT.CO.BPM.EmploymentApplications@Illinois.gov by **Wednesday, June 13, 2018**, 4:30 p.m. Please include address, daytime phone and position for which applying if not already listed on application. Applicants will be notified in writing to schedule interviews.

NOTE: A copy of each applicant's ACTIVE Illinois Professional Engineer License must accompany application for this position. Please be advised that if a high volume of applications are received, the applications may be screened to establish a smaller pool of applicants for interview. The screening will be based on the information contained in the application.



Illinois Department of Transportation

An Equal Opportunity Employer

Position Summary Sheet

Classification:	Civil Engineer IV	Salary:	\$5,800 - \$7,515*
Position Title:	Senior Bridge Ratings Engineer	Union Position:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Position Number:	PW114-23-75-906-31-01	IPR#:	42852

Office/Central Bureau/District/Work Address:

Office of Highways Project Implementation / Bureau of Bridges and Structures / 2300 S. Dirksen Parkway, Springfield, IL

Description Of Duties:

This position determines the structural ratings of structures on the state highway system based on calculated safe load carrying capacities. S/He recommends approval/disapproval of overload permits by the department for the operation of vehicles or loads that exceed the legal maximum dimensions and weights, construction overloads, and requests for addition of overlays.

Special Qualifications:

Required:

- Current Illinois Professional Engineer license
- Occasional travel with overnight stays
- Valid driver's license

Desired:

- Six years of experience in civil engineering of which three years should be in bridge design
- Current Illinois Structural Engineer license
- Thorough knowledge of the principles and practices of civil engineering with special emphasis on bridge design, construction, maintenance and inspection technology
- Ability to develop and maintain cooperative relationships with departmental staff and the public
- Strong oral and/or written communication skills

Shift/Remarks:

8:00 am – 4:30 pm / Monday – Friday

*Individual salary offers are computed based on an applicant's current position and experience level in comparison to the posted title as well as internal equity of staff in the organizational unit.

**Technical Application PM1080 (revised 6/1/17) is required. No previous version of the PM1080 will be accepted.

**ILLINOIS DEPARTMENT OF TRANSPORTATION
POSITION DESCRIPTION**

DATE:	3-5-2018	POSITION:	Senior Bridge Ratings Engineer
APPROVED BY:	Timothy Armbrecht	OFFICE/DIVISION:	Office of Highways Project Implementation / Bureau of Bridges and Structures
CODE:	PW114-23-75-906-31-01	REPORTS TO:	Bridge Ratings Group Engineer

Position Purpose

This position determines the structural ratings of structures on the state highway system based on calculated safe load carrying capacities. S/He recommends approval/disapproval of overload permits by the department for the operation of vehicles or loads that exceed the legal maximum dimensions and weights, construction overloads, and requests for addition of overlays.

Dimensions

Number of Structures Analyzed (Annually):	150-180
Number of Structure Postings/Closures (Annually):	8-10

Nature and Scope

This position reports to the Bridge Ratings Group Engineer. No staff reports to this position.

This position operates within an environment characterized by the utilization of extensive structural knowledge and expertise that is required to determine and evaluate the load carrying capacities and ratings for state-maintained structures. The incumbent must understand structural theory and be capable of performing structural analysis on structures of all types and complexities. S/He is required to exercise sound engineering judgment and must display an advanced knowledge of structural engineering theory. The incumbent must be able to perform structural analysis by utilizing AASHTOWare Bridge Rating (BrR) or, when necessary, by manually performing the required computations. This position also assists in the programming of bridges through the department's Bridge Management System by recording and evaluating data in the Illinois Structure Information System (ISIS).

Typical problems faced by the incumbent include the necessity to recognize and resolve error messages generated by BrR and determine the modifications required for the input in order to produce a structurally adequate analysis. Such modifications require a detailed knowledge of BrR and an excellent understanding of structural analysis and theory. The incumbent must also be able to analyze the repair, maintenance, rehabilitation, and replacement recommendations, and evaluate the cost effectiveness of the appropriate remedial action. The greatest challenge to this position is to utilize his/her structural expertise and knowledge of structural theory and to utilize the extremely complex BrR to calculate load carrying capacity. The incumbent must understand the engineering analysis programmed into BrR and keep abreast of any enhancements or modifications. Since BrR was developed in conjunction with several other states the incumbent must be aware of areas in which BrR does not meet the guidelines set forth by departmental policy (which may be unique to Illinois) and modify any affected input or output accordingly. While BrR is a valuable tool utilized in performing structural analysis, the incumbent is responsible for ensuring that the results generated by the system are structurally acceptable.

Functions performed personally by the incumbent include performing rating analysis for structures under construction or reconstruction; analysis of structures prior to the issuance of overload permits; development of charts, tables, and other tools in order to provide detailed and accurate records for structures which have been rated; and collection and analysis of bridge costs and completed projects. The incumbent is also responsible for recommending enhancements and/or modifications to BrR that would increase its effectiveness to the department. S/He acts as a contact person when disputes arise concerning conflicts between the standards incorporated in BrR and department standards. The incumbent must understand the capabilities and limitations of BrR. The incumbent frequently utilizes additional engineering computer programs to modify input data in order to obtain the desired results and utilizes additional data processing software to input data and execute computer programs.

The incumbent is expected to perform his/her duties with limited supervision and refers to his/her superior only cases that involve structurally deficient bridges or situations that are not covered by American Association of State Highway and Transportation Officials (AASHTO) or departmental policies.

The incumbent has frequent contact with the central Bureau of Operations when responding to inquiries concerning load limitations, movement restrictions on the structure and maximum load restriction. S/He is in frequent contact with other units within the bureau when performing structural analysis. S/He also has contact with consultant representatives who are responsible for monitoring and installation of system revisions. Occasional travel with overnight stays is required of this position.

The effectiveness of this position can be measured by the accuracy of the ratings generated, the incumbent's knowledge of structural analysis, and the quick completion of this frequently time sensitive activity.

Principal Accountabilities

1. Determines the load ratings and load carrying capacities for structures located on the state highway system.
2. Recommends approval/disapproval of overload permits, construction overloads and requests for additional overlay, and related load restrictions.
3. Identifies BrR system limitations and recommends necessary enhancements.
4. Utilizes additional computer programs, including STAAD, LARS & MIDAS to modify data for desired results.
5. Performs duties in compliance with departmental safety rules. Performs all duties in a manner conducive to the fair and equitable treatment of all employees.
6. Performs other duties as required or assigned.