



# Illinois Department of Transportation

## Memorandum

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To: DEPUTY SECRETARIES, DIRECTORS AND BUREAU CHIEFS  
From: Becky Koehler  
Bureau Chief of Personnel Management  
Subject: Technical Vacancy  
Date: March 5, 2018

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Attached are the Position Summary Sheet and Position Description for the vacant technical position listed below. Please post this vacancy announcement March 7, 2018 in the designated areas.

The deadline for applicants to submit their applications for consideration is **4:30 p.m. on Tuesday, March 20, 2018**. Applications will not be accepted after that time and date.

**NOTE: Applications will be accepted from qualified permanent DOT employees only. 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 V

Geotechnical Engineer  
Region 4/District 7/Project Implementation  
Office of Highways Project Implementation  
Effingham

Attachments  
42629

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](mailto:DOT.CO.BPM.EmploymentApplications@Illinois.gov) by **Tuesday, March 20, 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: Applications will be accepted from qualified permanent DOT employees only. 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

<b>Classification:</b>	<b>Civil Engineer V</b>	<b>Salary Range:</b>	<b>\$6,315 - \$10,210</b>
<b>Position Title:</b>	<b>Geotechnical Engineer</b>	<b>Union Position:</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Position Number:</b>	<b>PW115-23-57-203-10-01</b>	<b>IPR#:</b>	<b>42629</b>

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#### Office/Central Bureau/District/Work Address:

Office of Highways Project Implementation/Region 4/District 7/Bureau of Project Implementation/400 W. Wabash, Effingham, IL

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#### Description Of Duties:

This position is accountable for the supervision and direction of personnel engaged in the geotechnical activities of the district as they relate to the planning, design, construction, and maintenance of the highway system.

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#### Special Qualifications:

##### **Required:**

- Current Illinois Professional Engineer license
- Valid driver's license
- Districtwide travel

##### **Desired:**

- Nine years' experience in civil engineering of which at least five years should be in the specific area of highway engineering, three years of which should have been supervising engineering functions
- Extensive knowledge of materials and mixture designs/controls
- Ability to supervise, train, and motivate subordinate personnel
- Strong communication skills

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#### Shift/Remarks:

8:00 am – 4:30 pm / Monday - Friday

**THIS POSITION IS COVERED UNDER THE REVOLVING DOOR PROHIBITION (RDP) POLICY.**

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

**ILLINOIS DEPARTMENT OF TRANSPORTATION  
POSITION DESCRIPTION**

<b>DATE:</b>	December, 2017	<b>POSITION:</b>	Geotechnical Engineer
<b>APPROVED BY:</b>	Jeffrey M. South	<b>OFFICE/DIVISION:</b>	OHPI/Bureau of Project Implementation
<b>CODE:</b>	PW115-23-57-203-10-01	<b>REPORTS TO:</b>	Materials Engineer

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**Position Purpose**

This position is accountable for the supervision and direction of personnel engaged in the geotechnical activities of the District as they relate to the planning, design, construction, and maintenance of the highway system.

**Dimensions**

Subordinate Personnel:	2 Direct, 7 to 12 Indirect
Number of earthwork projects and soils reports annually:	9 to 14
Number of foundation boring projects (structures) annually:	10 to 25
Contract value of design projects requiring soils reports annually:	\$10 to \$17 million
Contract value of structural projects requiring foundation borings annually:	\$13 to \$20 million

**Nature and Scope**

This position reports to the Materials Engineer. Reporting to this position are the Soils Field Supervisor and Aggregate Inspection Supervisor.

This position is accountable for supervising the geotechnical section which includes establishing a coordinated program which: (1) considers the extent and performance of soil and rock conditions as determined by subsurface exploration and laboratory testing; (2) provides an economical and safe design as determined from analyses and interpretation of the data obtained; and (3) assures that the intent of the designs are carried out in construction as determined by job (quality) control testing and inspection. A high degree of expertise in a specialized technical field is required along with sound management skills essential to coordinating the field, laboratory, and office functions. Field activities are often performed within an environment of diverse conditions of terrain and weather which necessitate frequent scheduling and priority changes in order to accomplish the geotechnical program in a timely manner. District wide travel is required.

Typical problems are directing and coordinating the section to accomplish a geotechnical program that is often shifted or accelerated by changes in the overall district highway program. The incumbent is also responsible for motivating and evaluation of subordinates in order to assure that objectives and deadlines are met; establishing and maintaining an effective and congenial working relationship with engineering staff from several consulting firms and numerous state, federal, and local government agencies; initiating, formulating, and recommending both tried and innovative solutions for sophisticated soil problems depending on the circumstances and economies involved. The major challenge of the position is in developing courses of action to take when soil failures are anticipated, or occur. The decisions often require an immediate solution and the consequences of a mistake can be monumental.

The incumbent personally implements appropriate laboratory tests, prepares the soils profile, performs stability analyzes and develops parameters for forecasting soil behavior under different situations. From this base of information, the incumbent submits recommendations regarding design criteria and construction procedures. The incumbent reviews the district's design plans to ensure they have adequately addressed the soil requirements and routinely follows through the construction phase to ensure the soil treatment techniques are adequate and to

recommend and implement changes when unexpected soil or foundation problems are encountered. Priorities are established for the annual boring program and adjusted as necessary. The incumbent accepts or rejects borrow material, and reviews and approves soil reports submitted by consultants. The incumbent assists in the design and construction supervision of soil-cement, lime modifications, and stabilization procedures for subgrades. The incumbent develops and implements district specifications and quality standards involving soil-structure conditions.

The incumbent accomplishes his/her accountabilities through the following staff:

Soils Field Supervisor, who is responsible for the foundation boring and line boring operations and with embankment construction inspectors are responsible for ensuring effective embankment construction practices and subgrade controls within the district.

Aggregate Inspection Supervisor, who is responsible for the inspection and reporting of all aggregates used in construction, maintenance and/or used by various local agencies.

The incumbent is given very wide latitude in accomplishing all soils related activities because of the highly specialized nature of the work. The incumbent not only draws on extensive technical knowledge, but also relies on familiarity with the unique soil conditions that occur in the district. The incumbent is governed by state and federal standards and the principles and practices of soil mechanics. Only extraordinary technical problems of great impact are referred to the Central Bureau of Materials for resolution. The incumbent has the responsibility of making recommendations concerning hiring, disciplining, salary increases, and training for subordinates.

The incumbent has frequent internal contacts with Planning for limited or complete investigations and review and/or compiling of geological data utilized in location studies; Design to provide soils reports and recommendations for subgrade, embankment, and slope construction; Construction for recommendations on plan changes for items such as drainage correction, subgrade treatments, slope corrections; Land Acquisition to provide geological data related to mineral, water, and other subsurface deposits; Traffic for soil strength analysis for foundations concerning high mast lighting, overhead traffic sign and signal mast arm structures and Operations for problems involving drainage, subgrades, and slopes and the Central Bureau of Bridges and Structures to provide foundation boring logs and recommendations for substructure bearing and end slope design.

External contacts include contractors, consulting firms, University of Illinois, Illinois Geological Survey, and federal agencies for soil related matters. The incumbent also works with private utilities for issues involving pipeline bores beneath roadways and railroad crossing subsidence. Work is occasionally performed for the Capital Development Board, Department of Natural Resources, and local government agencies.

The effectiveness of this position is measured by the prompt and accurate completion of soils reports, cost effective solutions to soil failure problems and the successful completion of construction projects.

### **Principal Accountabilities**

1. Ensures that various soil conditions are properly determined, evaluated, and interpreted for design applications.
2. Recommends design correctional features for marginal and detrimental soil conditions, which exist or are foreseeable.
3. Reviews design plans to ensure they have adequately addressed the soil requirements.
4. Monitors the construction of embankments and foundations to ensure soil treatment techniques are adequate and that correct technical inspection and testing procedures are present.

5. Conducts investigations of soil problems encountered on construction projects and recommends remedial measures to correct the conditions.
6. Reviews soil engineering reports prepared by others to ensure conformity to state policies and procedures.
7. Develops and implements district specifications and quality standards involving soil-structure conditions.
8. Compile data, analyze, and prepare geotechnical reports as required for highway improvements.
9. Provides assistance and expertise to sister state agencies and local governmental agencies concerning soil related matters.
10. Performs duties in compliance with departmental safety rules. Performs all duties in a manner conducive to the fair and equitable treatment of all employees.
11. Performs all other duties as assigned.