

**Civil Engineer Trainee  
Geotechnical Engineer Trainee (2 positions)**

<b>IPR Number:</b>	<b>43674</b>	<b>Union Position:</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>
<b>Position Number:</b>	<b>PW110-23-75-905-30-01</b>	<b>Shift:</b>	<b>8:00 am – 4:30 pm</b>
<b>Opening Date:</b>	<b>September 3, 2019</b>		<b>Monday – Friday</b>
<b>Closing Date:</b>	<b>December 2, 2019</b>	<b>Salary:</b>	<b>\$4,275 – \$4,655*</b>

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

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

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**Position Purpose:**

This position provides structural engineers with geotechnical recommendations on simple projects so that the most cost effective, safe, and durable structure is constructed. This is accomplished by performing simple analyses, to design foundations supporting bridges, retaining walls, culverts, and other traffic structures or to review foundations designed by consultants. The incumbent provides foundation and geotechnical design parameters, plan modifications, and specification input to the structural engineer so the contract documents do not create construction delays or contractor claims. In addition, this position assists the districts, contractors, consultants, and in-house structural engineers in responding to or resolving soils related design and construction problems.

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**Qualifications:**

**Position Requirements:**

- Completion of a master's or bachelor's degree in engineering from an ABET accredited college OR a current Engineer Intern License in the state of Illinois (includes those expecting to graduate in fall of 2019 or spring of 2020). (Note: Those applying with only a degree must have a minimum of 2.5 cumulative GPA in engineering related courses. If 2.0-2.5 GPA, applicants must have passed the Fundamentals of Engineering exam)
- Occasional overnight travel is required

**Position Desirables:**

- Strong oral and written communication skills
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**How to Apply/Remarks:**

Technical Applications PM1080 (rev 8/23/19) 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 4:30 pm on the closing date listed above. Applications will not be accepted after this date and time. The previous application form revised 6/1/17, will be accepted until 4:30 pm on October 23, 2019.

**Agency Contact:** Bureau of Personnel Management, 217/782-5594

**Unofficial college transcripts must be included with application. Official college transcripts must be submitted upon date of employment. Applicants possessing an Engineer Intern License must also include a copy with application. Applicants not submitting these documents by the posting deadline will not be considered for employment.**

To be considered for a permanent position within IDOT, you must either be a US citizen or a non-citizen with permanent work authorization.

Only education/coursework and experience listed within the application will be considered for determining eligibility for this position.

Please be advised that if a high volume of applications is 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.

Applicants will be notified in writing to schedule interviews.

\*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.

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**ILLINOIS DEPARTMENT OF TRANSPORTATION  
POSITION DESCRIPTION**

<b>DATE:</b>	January 15, 2019	<b>WORKING TITLE:</b>	Geotechnical Engineer Trainee
<b>POSITION CLASSIFICATION:</b>	Civil Engineer Trainee	<b>OFFICE/BUREAU:</b>	Office of Highways Project Implementation / Bureau of Bridges and Structures
<b>POSITION NUMBER:</b>	PW110-23-75-905-30-01	<b>REGION/DISTRICT:</b>	n/a

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***Position Purpose***

This position provides structural engineers with geotechnical recommendations on simple projects so that the most cost effective, safe, and durable structure is constructed. This is accomplished by performing simple analyses to design foundations supporting bridges, retaining walls, culverts, and other traffic structures or to review foundations designed by consultants. The incumbent provides foundation and geotechnical design parameters, plan modifications, and specification input to the structural engineer so the contract documents do not create construction delays or contractor claims. In addition, this position assists the districts, contractors, consultants, and in-house structural engineers in responding to or resolving soils related design and construction problems.

***Dimensions***

Annual projects:	25 – 50
Contract value:	\$75 M

***Nature and Scope***

This position reports to the Geotechnical Group Engineer. There are no subordinates reporting to this position.

This position operates in an environment where multiple projects are assigned to the incumbent, the general review scope is provided, and the incumbent is expected to work for the most part independently to provide competent recommendations to the Geotechnical Group Engineer by the requested completion date. The incumbent has broad latitude in utilizing judgment on how to complete assignments, as well as having the responsibility to seek input and concurrence from the Geotechnical Group Engineer when deviating from policy and resolving simple issues to maintain unit productivity. As part of the incumbent's duties, s/he may be asked to perform geotechnical analyses on simple projects. This may involve working with consultants (both geotechnical and structural), as well as district and bureau staff, to ensure cost effective, safe, accurate geotechnical recommendations along with resolving problems and considering the site and subsurface design constraints.

The incumbent is responsible for developing and maintaining a comprehensive knowledge of geotechnical engineering theories and practice so that s/he is capable of solving and reviewing somewhat unique and simple problems by utilizing advanced geotechnical analyses and procedures. As such, innovative analyses and designs not normally required on more common projects are necessary. The greatest challenge faced by the incumbent is to be resourceful and apply the latest technological developments in geotechnical engineering to these simple departmental projects.

The incumbent prepares in-house Structure Geotechnical Reports (SGRs) on simple projects, reviews consultant-prepared SGRs, and communicates review comments to the consultants to ensure completeness of the SGR which is used in the development of the Type Size and Location (TSL) plans, design computations,

final contract plans, and construction specifications. The position ensures appropriate subsurface soils data has been gathered and is commensurate with the complexity of the projects. In addition, TSL plans, final plans, local agency designs, and construction submittals on simple projects are reviewed and recommendations are issued by the incumbent to address any geotechnical problems uncovered. The recommendations made by the incumbent will be often related to a foundation, retaining wall, or site soils ability to carry design loads, the adequacy or development of plan details, and the review or writing of specifications. S/He is responsible for the analyses, design, or review of simple bridge foundations, earth retaining systems, ground modification, ground anchors, river cofferdams, temporary soil retention systems as well as sign, light, and traffic structure foundations, construction control of pile driving, and drilled shaft installation. The incumbent may need to conduct field inspections to view and address geotechnical challenges in either the planning, design, or construction phases.

The incumbent must maintain a working knowledge of and be guided by the American Association of State Highway Officials (AASHTO) design and construction specifications and applicable departmental policies.

This position maintains contact with bureau and district staff. S/He maintains moderate contact with the Federal Highway Administration on foundation policies as well as technology transfer and occasional contact with university personnel involved in previous or current research to answer questions on geotechnical issues. Occasional overnight travel is required.

The effectiveness of this position is measured by the accuracy and expertise observed by the Geotechnical Group Engineer, the timeliness with which tasks are completed, and the ability to communicate simple issues with the supervisor, consultants, and co-workers.

### ***Principal Accountabilities***

1. Prepares and/or reviews consultant Structure Geotechnical Reports on simple projects.
2. Reviews foundations and geotechnical aspects of structural consultant and in-house TSL plans for simple structures.
3. Reviews foundations and geotechnical aspects of structural consultant and in-house final plans for simple structures.
4. Reviews simple construction submittals including cofferdams, seal coats, temporary soil retention systems, drilled shaft installation procedures, ground modification designs, tie-back anchor and micro-pile designs, value engineering, construction problems, Mechanically Stabilized Earth (MSE) and soil nailed wall internal stability, noise wall foundations, and other less common requests.
5. Reviews simple local agency structure foundations and geotechnical reports as well as repair plans for foundations, slopes, and retaining walls.
6. Designs simple shaft foundations for high mast light towers, overhead sign trusses, and traffic signal mast arms when standard design tables provided on the standard base sheets and manuals cannot be used.
7. Performs duties in compliance with departmental safety rules. Performs all duties in a manner conducive to the fair and equitable treatment of all employees.
8. Performs other duties as assigned.

**Subordinates of this position** (if applicable, list subordinate information in the chart below)

Position Classification	Position Number	Working Title	Authorized Identical
n/a			

**Supervisor of this position**

Immediate Supervisor Position Classification: Civil Engineer V

Working Title: Geotechnical Group Engineer

Position Number: PW115-23-75-905-30-01

**Position Requirements**

- Completion of a master's or bachelor's degree in engineering from an ABET accredited college OR a current Engineer Intern License in the state of Illinois
- Minimum 2.5 cumulative GPA in engineering related courses (If GPA is between 2.0–2.5 candidate must have passed the Fundamentals of Engineering Exam)
- Occasional overnight travel is required

**Position Desirables**

- Strong oral and written communication skills

**Agency Approvals**

  
 Bureau Chief of Personnel Management

  
 Secretary, Department of Transportation