

# Job Title: CIVIL ENGINEER V - GEOTECHNICAL GROUP ENGINEER - IPR#44511

**Agency:** Department of Transportation

**Closing Date/Time:** 01/21/2022

**Salary:** \$6,445 - \$10,210 Monthly

**Job Type:** Salaried Full Time

**County:** Sangamon

**Number of Vacancies:** 1

**Plan/BU:** NR916

**NOTE:** This position was previously posted. Those applicants that applied to the original posting do not need to re-apply, as the original application will be accepted for the posting. Please direct any questions to the Agency Contact listed below.

This position is a union position; therefore, provisions of the relevant collective bargaining agreement/labor contract apply to the filling of this position.

All applicants who want to be considered for this position MUST apply electronically through SuccessFactors. Applications submitted via email or any paper manner (mail, fax, hand delivery) will not be considered.

Interested applicants must apply for this position on the Work for Illinois website, [www.work.illinois.gov](http://www.work.illinois.gov). Please direct any questions to the Agency Contact listed below.

## Agency Mission Statement

The Illinois Department of Transportation is seeking to hire a Geotechnical Group Engineer.

The IDOT team works diligently to provide safe, cost-effective transportation for Illinois in ways that enhance quality of life, promote economic prosperity and protect our environment. We are problem solvers and leaders, constantly searching for innovations and improvements in support of our commitment to providing the best multimodal transportation system for Illinois.

Our team fosters a culture of inclusivity. We value diversity and hold ourselves to the highest ethical standards as we work together for a common purpose. Team members frequently collaborate with colleagues and others outside the department to best meet customer needs.

Employees enjoy excellent benefits, including health, vision and dental insurance; a retirement plan and deferred compensation options; state holidays and other time off; tuition reimbursement; flexible schedules; and pre-tax benefit programs. The department also offers extensive training and career advancement opportunities.

We invite qualified applicants to apply to become part of our team. We are confident that you will take pride in serving Illinois and its residents and visitors.

## Job Responsibilities

This position is responsible for and directs a staff who provides structural engineers with geotechnical recommendations on simple to complex projects in order that the most cost effective, safe, and durable structure is constructed. This is accomplished by overseeing the staff's analyses and ensuring the accuracy of their review of consultant designed foundations supporting bridges, retaining walls, culverts, and other traffic structures. The final foundation and geotechnical design parameters, plan modifications, and specification input approved by the incumbent ensures that the contract documents do not create construction delays or contractor claims.

Annual projects: 125 - 150

Contract value: \$170 million

This position reports to the Foundations and Geotechnical Unit Chief. Reporting to this position are the Senior Geotechnical Engineer, Geotechnical Engineer, Associate Geotechnical Engineer, Assistant Geotechnical Engineer, and Geotechnical Engineer Trainee.

This position operates in an environment where numerous requests for project review, design assistance, and construction answers are given to the incumbent daily. The incumbent accomplishes these requests by assigning tasks to his/her staff or, when staffing levels or workload dictate, a consultant will be assigned the work when the incumbent cannot complete the work himself/herself. Although assigned to staff or a consultant, the incumbent must monitor the work progress, answer questions, make decisions, and review the work quality to ensure successful task completion by the requested date.

Typical problems include developing and maintaining a comprehensive knowledge of geotechnical engineering theories and practices so that the incumbent can solve and review unique and complex problems by utilizing advanced geotechnical analyses and procedures. The greatest challenge faced by the incumbent is to be resourceful and ensure that projects completed under his/her supervision are using the latest technological developments in geotechnical engineering to address the challenges presented by the subsurface conditions encountered on department projects.

The incumbent oversees the preparation of in-house structural geotechnical reports (SGRs) and review of consultant-prepared SGRs, and clearly communicates review comments to the SGR author to ensure completeness of the SGR which is used in the development of the structure's type, size, and location plans (TSL), design computations, final contract plans, and construction specifications. The incumbent is also responsible for ensuring the appropriate subsurface soils data has been gathered and is commensurate with the complexity of the project. In addition, TSL plans, final plans, local agency designs, and construction submittals are reviewed, and recommendations are issued after the incumbent gives input and concurrence to address any geotechnical problems uncovered.

### **(Job Responsibilities continued)**

The recommendations made by the incumbent will often relate to a foundation, retaining wall, or the 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, review of bridge piling, drilled shafts, footings, earth retaining systems, ground modification, ground anchors, cofferdams, and temporary soil retention systems, as well as sign, light, and traffic structure foundations. S/He may need to conduct field inspections to view and address geotechnical challenges in either the planning, design, or construction phases. The incumbent assigns and reviews staff evaluations of the single shaft foundation designs 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. The incumbent may be occasionally asked to assist in training class development or teaching, to research efforts in geotechnical and foundations areas, and to help evaluate new technologies and improve policies related to the geotechnical issues impacting structures. The incumbent assists districts, contractors, consultants, and in-house structural engineers in responding to or resolving soils-related design and construction problems. S/He assists the Foundations and Geotechnical Unit Chief in developing statewide foundation and geotechnical policies, specifications, training, manuals, and research. S/He may be asked to perform geotechnical analyses on very complex projects to ensure cost effective, safe, and accurate geotechnical recommendations as well as resolve problems considering the site and subsurface design constraints.

The incumbent accomplishes accountabilities through the following staff:

Senior Geotechnical Engineer who is responsible for performing complex analyses and designs for the foundations supporting bridges, walls, culverts, and other traffic structures as well as evaluating and developing solutions to complex soil-related problems encountered in design and construction.

Geotechnical Engineer who is responsible for performing typical to complex analyses and designs for the foundations supporting bridges, walls, culverts, and other traffic structures as well as evaluating

and developing solutions to typical to complex soil-related problems encountered in design and construction.

Associate Geotechnical Engineer who is responsible for providing 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.

Assistant Geotechnical Engineer who is responsible for performing simple to typical analyses and designs for the foundations supporting bridges, walls, culverts, and other traffic structures as well as evaluating and developing solutions to simple soil-related problems encountered in design and construction.

### **(Job Responsibilities continued)**

Geotechnical Engineer Trainee who is responsible for preparing in-house SGRs on simple projects, reviewing consultant-prepared SGRs, and communicating review comments to the consultants to ensure completeness of the SGR.

This position has broad latitude in utilizing judgment on how to assign, monitor, review, and approve projects but is also responsible for seeking input and concurrence from the Foundations and Geotechnical Unit Chief when major deviations from policy are being considered or when resolving very complex issues in order to maintain productivity. The incumbent is guided by the American Association of State Highway and Transportation Officials (AASHTO) specifications and applicable departmental policies. The incumbent has broad latitude in pursuing his/her objectives for completing assignments. S/He must refer any problems concerning deviations from departmental policies, standards, and specifications to the Foundations and Geotechnical Unit Chief.

The incumbent has frequent contacts with other units within the Bridge Planning Section and the Bureau of Bridges and Structures. S/He has regular contacts with the districts, the Bureau of Construction, and the Bureau of Materials for the purpose of resolving data acquisition and construction issues. S/He maintains moderate contact with the Federal Highway Administration (FHWA) on foundation policies and technology transfer. S/He has occasional contacts with university personnel involved in previous or current research to answer questions on geotechnical issues. Occasional statewide travel with overnight stays is required.

The effectiveness of this position is measured by the accuracy and expertise observed by the Foundations and Geotechnical Unit Chief, the timeliness with which tasks are completed, and his/her ability to communicate complex issues with the Foundations and Geotechnical Unit Chief, consultants, and co-workers.

### **Principal Accountabilities**

1. Assigns and reviews staff evaluations of consultant or in-house SGRs.
2. Assigns and reviews staff evaluations of the foundations and geotechnical aspects of TSL plans.
3. Assigns and reviews staff evaluations of the foundations and geotechnical aspects of final design plans and specifications when requested.
4. Assigns and reviews staff evaluations of the 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. Assigns and reviews staff evaluations of the local agency structure foundations and geotechnical reports as well as repair plans for foundations, slopes, and retaining walls.
6. Assigns and reviews staff evaluations of the single shaft foundation designs 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. Assists the Foundations and Geotechnical Unit Chief in developing and teaching statewide training, research, and policy (specifications, manuals, and programming) as necessary.
8. Trains, motivates, and evaluates subordinates to ensure a well-developed and competent staff.
9. Performs duties in compliance with departmental safety rules. Performs all duties in a manner conducive to the fair and equitable treatment of all employees.
10. Performs other duties as assigned.

## **Qualifications**

### **Position Requirements**

- Current registration as a Licensed Professional Engineer in the state of Illinois
- Five years of experience in civil engineering
- Valid driver's license
- Occasional statewide travel with overnight stays

### **Position Desirables**

- Supervisory experience
- Knowledge of foundation and geotechnical engineering
- Experience developing and teaching training classes
- Experience in foundation design
- Ability to develop and maintain cooperative relationships with departmental staff
- Strong oral and/or written communication skills

**Work Hours:** 8:00 AM to 4:30 PM Monday-Friday

**Work Location:** 2300 S Dirksen Pkwy Springfield, IL 62764-0001

**Office:** Office of Highways Project Implementation/Bureau of Bridges and Structures

**Agency Contact:** DOT.CO.BPM.EmploymentApplications@Illinois.gov

**Job Function:** Transportation

## **APPLICATION INSTRUCTIONS**

Use the "Apply" button at the top right or bottom right of this posting to begin the application process.

If you are not already signed in, you will be prompted to do so.

State employees should sign in to the career portal for State of Illinois employees – a link is available at the top left of the work.Illinois.gov homepage in the blue ribbon.

Non-State employees should log in on the using the "View Profile" link in the top right of the work.Illinois.gov homepage in the blue ribbon. If you have never before signed in, you will be prompted to create an account.

If you have questions about how to apply, please see the following resources:

State employees: Log in to the career portal for State employees[KS(1)] and review the Internal Candidate Application Job Aid HERE[KS(2)]

Non-State employees: on work.Illinois.gov – click "Application Procedures" in the footer of every page of the website.