

Missouri Department of Transportation Job Description

Job Title: Senior Geotechnical Specialist

Title Code: R05773

Salary Grade: 9

Exemption Status: Non-Exempt

Supervisory Responsibilities: Lead Worker

District/Division: Central or District Offices – Construction and Materials

Effective Date: 09-01-2026

Replaces (Effective Date): 06-01-2025

General Summary

The senior geotechnical specialist performs geotechnical investigations to provide department personnel with information regarding existing subsurface conditions for structures. Responsibilities are performed under general supervision.

Minimum/Required Qualifications

- Bachelor's degree in civil engineering (with geotechnical emphasis), geological engineering, or geology from an ABET-accredited college or university curriculum.
- OSHA 10-Hour Certification required within 90 days.
- Four years of experience in highway or transportation engineering.
- Successful completion of a range of motion examination and a medical-physical examination.

Special Working Conditions/Job Characteristics

- Job may require regular, statewide, overnight travel.
- Job requires heavy physical exertion and effort.
- Job requires exposure to moderately adverse and undesirable environmental conditions.
- A postsecondary degree is the best measure to ensure candidates possess required engineering knowledge, including in applied physics and mathematics, drafting, engineering processes and procedures, project management, industry ethical standards, and analyzing and modeling data.

Examples of Work

1. Provides technical support for field subsurface investigations on structures; reviews and analyzes geotechnical test data and develops recommendations for solutions to problems.
2. Provides technical support for field investigations of compressible foundations, slides, and other slope stability problems including undisturbed sampling; and analyzes the test data for future job sites and proposed roadways.
3. Coordinates with Central Office geotechnical crews within the district prior to beginning a subsurface investigation; contacts property owners to secure access; contacts the utility company to mark lines in the field and sets up work zones when working on roadways.
4. Performs ledge stone sampling in quarries, which includes determining the geology of quarry ledge groups and obtaining samples from the quarry face to determine future aggregate suitability.
5. Performs computations, writes reports, and makes recommendations after completing subsurface investigations for design or bridge personnel; answers questions pertaining to geotechnical issues during construction and maintenance of projects.
6. Conducts surveys to determine condition of existing pavement for future overlays; performs general material inspections and coordinates with producers of the materials for use of materials in highway construction.
7. Conducts special on-site investigations during construction such as seepage, caves, and sinkholes.
8. Locates, tests, and recommends acceptance/rejection on borrow material.
9. Coordinates training and implements safety programs for district personnel in regard to the use of nuclear radiation gauges.
10. Performs lead worker responsibilities, which may include providing general instruction, assigning and reviewing work, coaching and training, providing guidance and instruction in the proper and most efficient methods of accomplishing tasks, and providing input to the direct supervisor on staffing decisions and performance management.
11. Performs other responsibilities as required or assigned.