

Missouri Department of Transportation Job Description

Job Title: Senior Materials Technician

Title Code: R01501

Salary Grade: 6

Exemption Status: Non-Exempt

Supervisory Responsibilities: None

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

Effective Date: 12-16-2024

Replaces (Effective Date): 07-01-2022

General Summary

The senior materials technician performs advanced technical duties in the sampling, testing, and/or inspection of materials used in highway construction and maintenance projects; responsibilities are performed on location throughout the state and/or at the Central Laboratory. Responsibilities are performed under general supervision.

Minimum/Required Qualifications

- High School Diploma or GED/HiSET and four years of experience in technical positions, **OR**
- Associate's Degree in Civil Engineering Technology or related field and two years of experience in technical positions., **OR**
- Bachelor's Degree in Civil Engineering Technology or related field.
- OSHA 10-Hour Certification required within 90 days.
- Successful completion of a work simulation examination and a medical-physical examination.

Special Working Conditions/Job Characteristics

- Job is physically demanding and requires prolonged periods of standing and frequent lifting.
- Job requires outdoor and/or laboratory work that involves exposure to physical hazards, health, and safety risks, and/or adverse or otherwise undesirable characteristics in the environment, including (but not limited to) exposure to hazardous chemicals, dust, fumes, hot ovens, power tools, and other equipment.
- Basic math skills, consistent with high school level algebra, will be necessary to perform many of this title's duties.

- Job may require occasional, statewide, overnight travel.
- Job may require operation of vehicles to plow snow and spread ice control materials.

Examples of Work

1. Performs field sampling and testing or laboratory testing of soils, aggregates, cements, bituminous mixtures, new products, or general materials; utilizes computers, electronic systems, and testing equipment for data entry, data collection, analysis, and preparation of laboratory testing reports.
2. Checks quality of aggregates by determining percentages of deleterious material, plasticity index as required, and elongated particles; checks for stockpiling procedures, oversize aggregates, and contamination; determines if aggregates are being produced from approved ledges or sources; approves or rejects material intended for use; prepares aggregate samples for bituminous trial mixes; and keeps records and reports on inspection rates and aggregates used for each project or for maintenance use.
3. Inspects production of materials at concrete plants, including calibration and verification of proportioning equipment; samples and/or tests bituminous materials, portland cement, sodium chloride, and liquid calcium chloride.
4. Performs calculations, reports test results, notifies supervisor of deviations from standards, and maintains records of testing activities.
5. Performs duties outlined in the quality systems manuals, including completing competency exam evaluations, verifying results, demonstrating test procedures, and calibrating equipment; assists in quality control/quality assurance reference testing.
6. Prepares material samples for testing; and maintains and operates various electronic, mechanical, hydraulic, and pneumatic equipment for physical testing of samples.
7. Records sampling and/or testing data in various computer software programs; performs special sampling and testing on federal aid projects; and completes tabulations on material summary requirements.
8. May maintain and clean laboratory testing equipment and other related items as necessary.
9. Conducts training for new employees or contractors on state and federal specifications and testing methods.

10. Provides technical supervision of geotechnical field subsurface investigations and prepares a boring plan based on the accessibility and information needed; ensures subsurface investigation is adapted to access constraints and subsurface conditions; reviews plans and layout profiles; conducts boring operations with field crews and obtains soil and rock samples for further testing.
11. Performs other responsibilities as required or assigned.