

# Missouri Department of Transportation

Code: R05831

Title: Structural Development and Support Engineer

Exemption Status: Exempt

Grade: 20

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## Job Description

**Effective Date** 03-01-2008

**Replaces  
(Effective Date)** 04-01-2006

**General Summary** The structural development and support engineer is responsible for developing and updating the department's Bridge Design Manual, structural standard plans, and computer software to conform to current American Association of State Highway and Transportation Officials (AASHTO) guidelines. Responsibilities are performed under general supervision.

**Minimum/Required  
Qualifications** Bachelor's Degree: Civil Engineering  
Licensed as a Professional Engineer in the State of Missouri.  
Nine years of experience in civil engineering with a proficiency in structural design and/or engineering applications programming. An advanced degree in civil engineering with an emphasis in structures or engineering applications programming may be substituted for a maximum of two years of experience.

**Supervisory  
Responsibilities** Full Supervision

**Location** Central Office - Bridge

**Special Working  
Conditions/Job  
Characteristics** Job requires occasional, statewide and/or national, overnight travel.

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## Examples of Work

- (1) Implements the Federally mandated American Association of State Highway and Transportation Officials' (AASHTO) Load and Resistance Factor Design (LRFD) code by developing examples, spreadsheets and flowcharts and posting information to the LRFD website for in-house use.
- (2) Researches, develops, recommends and maintains new design and detailing procedures for the department's bridge design manuals, drawings and computer software; writes and maintains the department's Bridge LRFD manual.
- (3) Develops and maintains the Standard Library, Structural Cell Library and Standard Plans.
- (4) Disseminates current structural design policy information within and outside the department by providing hard copies internally and posting via computer and the internet for external use.
- (5) Maintains and develops computer program manuals; researches, develops and analyzes LRFD-compatible

software.

- (6) Recommends code revisions, reviews annual AASHTO agenda items and advises department management regarding recommended voting for AASHTO code revisions.
- (7) Implements AASHTO highway signs, luminaries and traffic signal code and reviews design of all structures under revised code.
- (8) Assists the Traffic Division in review of vendor submittals for pre-qualified listings for sign and light poles; reviews submittals and oversees and maintains files for the pre-qualification of new Mechanically Stabilized Earth (MSE) walls; manages the department's pre-qualified listing for MSE walls and manages posting the listing on the internet.
- (9) Reviews Signs and Structures that exceed limits shown on Standard Plans.
- (10) Performs supervisory responsibilities in a manner consistent with the department's Affirmative Action Program.
- (11) Performs other responsibilities as required or assigned.

**The Missouri Department of Transportation promotes an equal opportunity workplace that includes reasonable accommodation of otherwise disabled applicants and employees. Please see your manager should you have any questions about this policy or these job duties.**