

# Missouri Department of Transportation Job Description

**Job Title:** Structural Hydraulic Designer

**Title Code:** R05594

**Salary Grade:** 7

**Exemption Status:** Non-Exempt

**Supervisory Responsibilities:** None

**District/Division:** Central Office - Bridge

**Effective Date:** 05-01-2025

**Replaces (Effective Date):** 10-16-2024

## **General Summary**

The structural hydraulic designer is responsible for performing hydrologic and hydraulic design computations, analysis, drawings, and sketches for the design of transportation related structures, such as routine bridges and box culverts. Responsibilities are performed under direct supervision.

## **Minimum/Required Qualifications**

- Bachelor's degree in civil engineering or related field with an emphasis on hydraulic or hydrology course work from an ABET-accredited college or university curriculum.

## **Special Working Conditions/Job Characteristics**

- 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. Performs hydraulic modeling, design, and analysis of routine structures, such as routine bridges and box culverts.
2. Performs hydrologic analyses to support preliminary and hydraulic projects.
3. Performs sediment transport and scour analyses to support preliminary and hydraulic projects.
4. Creates sketches by hand or using computer aided drafting and design applications as necessary to aid in the development of the hydraulic design and model.
5. Works with a bridge location and layout designer to evaluate multiple alternatives to determine the most hydraulically, structurally, and fiscally practical design for the site.

6. Attends project meetings and consults/advises all parties involved including department personnel; city, county, state, and federal personnel; and private consultants.
7. Evaluates and utilizes engineering software and develops comprehensive spreadsheets.
8. Performs other responsibilities as required or assigned.