

# STATE OF MONTANA

## JOB DESCRIPTION

*Montana state government is an equal opportunity employer. The State shall, upon request, provide reasonable accommodations to otherwise qualified individuals with disabilities.*

**Job Title:** Design Supervisor

**Locations:** Helena, Missoula, Butte, Great Falls, Glendive, Billings

**Department:** Transportation

**Division and Bureau:** Highways and Engineering  
or District Preconstruction

**Section and Unit:** Road Design Section

**Position Numbers:** 32012, 32016, 32040, 32075, 39003, 51204, 53204, 55204, 57212, 59204

### **Job Overview:**

This position performs supervision, crew management, and complex engineering design work in the planning and design of roads and related facilities for many projects of varying complexity on Montana's interstate, primary, secondary, and urban highway systems.

### **Essential Functions (Major Duties or Responsibilities):**

#### **A. Project Design, Guidance and Review**

**50%**

Develop and deliver plan packages that meet MDT standards and project letting schedules.

- Perform and direct the design of plan packages for construction of highway projects.
- Make initial project design determinations. Balance construction cost, constructability, safety, environmental, and context sensitive design issues. Evaluate the needs for applying unique design or construction methods for projects in which no precedent has been set and propose alternative design options or methods to the District Design Project Manager or Road Design Engineer (for Helena crews), or the District Projects Engineer (for crews located in the Districts).
- Compile project information and participate in and schedule field reviews, plan reviews, and design decision meetings. Request from and provide information to other functional design staff related to the project design. Prepare or oversee the preparation of design reports including plan review reports, the Scope of Work report, and Design Exception and Design Variance reports.
- Coordinate design activities and services with other bureaus and sections. Ensure that appropriate materials, right-of-way, hydraulic, structure, utility, traffic, and safety, environmental, context sensitive, work zone safety and mobility, and other features are incorporated into the design. Discuss identified and potential risk issues at key meetings and informally with design team members. Resolve design issues. Produce plans that meet MDT's mission "to serve the public by providing a transportation system and services that emphasize quality, safety, cost effectiveness, economic vitality and sensitivity to the environment". Listen to and act on concerns from design staff and design team members. Review surveys, design

recommendations, field notes, correspondence, and reports and ensure that they meet the overall design objectives.

- Participate in reviews and project plan inspections with Preconstruction, Construction, FHWA, and local and state agency personnel; write follow-up reports documenting decisions. Incorporate changes to plans into final plans package.
- Review construction plan packages and contracts. Ensure the adequacy and feasibility of the plans based on site-specific conditions. Provide engineering assessments of designs. Coordinate and balance constructability and compliance with state and federal requirements and standards (such items as horizontal and vertical alignment, grades, topography and soils, drainage, cut and fill slopes, road widths, and safety features) while considering other project requirements and controlling factors (such as environmental documentation, utilities, right-of-way requirements, wetland and cultural sites, and other context sensitive solutions) in the plans. Ensure compliance with PROWAG and other regulations with all plans, including wheelchair accessibility, signal placement, crossing widths, slope ratios, etc.
- Develop and improve design standards, detailed drawings, standard practices, and provisions. Provide recommendations to the Road Design Engineer or Highways Engineer regarding policies and procedures.
- Review, approve, and ensure plan consistency and accuracy for the design details of work performed by staff. Provide technical expertise, guidance, coaching, and informal training to staff. Review and approve plan packages and cost estimates for completeness at milestone points in the design process. Review and resolve problems with design staff and provide recommendations to design staff in problem designs.
- Attend public meetings and meetings with project stakeholders, local government officials, and other state and federal agency personnel. Provide technical expertise at public informational meetings and public hearings. Educate the public and stakeholders on design details and standards. Provide information to the public and answer questions regarding project design.
- Assign, oversee, and assist in the calculation of typical sections and computed surfacing quantities, project alignments and grades, earthwork quantities, drainage and irrigation structures, guardrail, curb and gutter, ADA features, erosion control items, fencing, and other miscellaneous features necessary for project construction. Check plan and profile sheets, cross sections, summary sheets, and details. Write and/or check special provisions and other contract considerations. Prepare cost estimates and traffic management plans.
- Apply innovative design techniques and construction applications to enhance project quality, cost effectiveness, constructability, or context sensitivity.

**B. Design Crew Management and Staff Supervision**

**35%**

Manage one of the districts design crews for the Helena Road Design Section or a District Road Design Section. Produce consistent, accurate and timely road plan packages. Guide and supervise design staff.

- Evaluate staff capabilities and assign work according to abilities and knowledge. Understand the level of expertise required for designing projects with varying levels of complexity; the amount of time necessary to complete design tasks; the number of projects assigned to the crew; and the scheduled completion time for each project. Implement work plans, methods, and procedures, and monitor individual and design crew workflow.

- Oversee staff's design techniques and applications. Confirm compliance with standard design practices and standard specifications.; instruct and demonstrate proper work methods to staff; provide manuals and guidelines and ensure access to the proper materials and equipment; encourage attendance at related training sessions.
- Monitor project development. Utilize Engineering Project Scheduler (EPS) project management tools, the tentative construction program, project status meetings, and Division and District Administration guidance. Ensure staff keeps project tasks on schedule. Update EPS according to established guidelines and participate in District Design Coordination meetings. Coordinate with the District Design Project Manager and Road Design Engineer (for Helena crews) or the District Projects Engineer (for District crews) on project status and performance issues.
- Conduct staff meetings, assign personnel, disseminate data and information, and promote the exchange of ideas and information.
- Review time sheets for correct documentation of hours worked, leave taken, and project charges and approve time sheet and leave documentation. Ensure proper reporting of federal expenditures and compliance with state and federal regulations. Recognize FMLA qualifying events and refer employees to Human Resources to complete the FMLA process.
- Conduct and set performance standards and evaluate staff performance. Maintain a healthy work environment and enhance staff retention. Regularly review and discuss individual work quality, behavioral qualities, and general work performance.
- Resolve conflicts in a timely manner. Recommend disciplinary action to the District Design Project Manager or Road Design Engineer (for Helena crews) or the District Projects Engineer (for District crews), as necessary.
- Oversee records management to meet state and departmental retention and disposal requirements pertaining to project design documentation. Provide direction and guidance to staff on records management, electronic data storage, and record transfer and archiving activities and policies. Ensure that design recommendations are complete and accurate, and that project documentation meets FHWA requirements.

**C. Workforce Recruitment, Training and Retention**

**10%**

Train crew, departmental, and consultant designers on issues related to road design. Ensure design consistency and compliance with state and federal laws and regulations.

- Train and orient new employees, develop and recommend cross-training or rotational assignments. Develop versatility among staff and enhance workforce retention. Work with staff to ensure their training and work assignments fit in their work plans for career ladder advancement.
- Participate on hiring panels; test, interview, and evaluate perspective employees and make hiring and promotion recommendations based on staffing needs.
- Coordinate implementation of state-of-the-art methods and equipment and work to ensure efficiency in highway construction plan development.
- Conduct and/or participate on committees and special assignments.

**D. Project Review and Expert Guidance**

**5%**

Review plans developed by other design areas, road design consultants, and systems impact consultants and provide expertise to MDT and other designers.

- As assigned, review plans from outside the crew to ensure consistency, constructability and compliance with MDT design and construction practices and current state and federal laws and regulations.
- Provide guidance and technical expertise to MDT and consultant designers, other departmental agencies, and local governmental officials; assist in design issues related to road design.
- Research and participate in applicable training and conferences related to road design issues.

## **Supervision**

This position does have supervisory duties and supervises anywhere from two to four FTEs, depending on the location and number of FTEs available.

The position number for each directly supervised employee is: **32012** – 32001, 32036, 32059; **32016** – 32022, 32087, 32091; **32040** – 32086, 51038; **32075** – 32006, 32047, 32070; **39003** – 32046, 32067, 32089; **51204** – 51001, 51044, 51206; **53204** – 53041, 53042, 53061, 53117; **55204** – 55012, 55044, 55047, 60075; **57212** – 57007, 57040, 57240; **59204** – 59029, 59021

## **Physical and Environmental Demands:**

### *Physical:*

- Carry light items (papers, books, small parts)
- Operate a personal computer for long periods of time
- Remain seated for extended periods of time, with occasional walking; standing; bending
- Some travel within the state to project locations
- Traverse steep grades and rough terrain when participating in field reviews
- Exposure to outdoor elements, including adverse weather and near high-speed traffic and high traffic volumes.

### *Mental:*

- Ability to perform work in a stressful environment
- Ability to perform complex mathematical calculations
- Decision making that can affect both personal and public health and safety
- Use available information to determine design options that provide the greatest benefit to the public
- Demands for accuracy in all aspects of work and attention to detail
- Compiling and comparing information and/or data
- Ability to be flexible and multi-task
- Ability to trouble-shoot design software questions
- Ability to deal with personnel issues

## **Knowledge, Skills and Abilities (Behaviors):**

**Knowledge:** Requires a thorough knowledge of a broad range of highway engineering design concepts and applications and road construction processes and procedures; of MDT and federal standards and guidelines regarding road design and construction and the applications and procedures of computer-assisted software to the design process.

### **Skills:**

Revision Date: 01/2024

Requires skill in the use of engineering office instruments, equipment, and computers. Requires the ability to establish and maintain effective working relationships with employees, other agencies, and the public; to communicate effectively orally and in writing; to coordinate activities of subordinates ensuring that completed work meets standards of quality, timelines, and cost; and plan, select or devise methods and procedures to stimulate work flow; to apply portions of engineering and construction knowledge to a wide range of projects from simple too complex to unprecedented innovative professional design assignments; to interpret and apply a broad range of site-specific data, collate that information with other technical recommendations and adapt or extend unprecedented design concepts.

**Minimum Qualifications (Education and Experience):**

The required knowledge and skills are typically acquired through a combination of education and experience equivalent to a high school diploma as well as the successful completion of at least one CADD class. Additional relevant education and/or experience may be considered.

This position requires a minimum of six (6) years of progressively responsible direct highway design experience as well as one (1) year of supervisory experience.

Alternative Qualifications include:

An associate degree in a related field of study plus four years of progressively responsible direct highway design experience.

A bachelor's degree in a related field of study plus two years of progressively responsible direct highway design experience.

Acceptable Fields of Study: Civil Engineering; Construction Engineering Technology; Surveying; Drafting; Construction Engineering; other engineering degrees such as Engineering Science, Mechanical Engineering, or Geological Engineering may be considered after a review of coursework.

**Signatures**

My signature below indicates the statements in the job description are accurate and complete.

<b>Immediate Supervisor</b>	<b>Title</b>	<b>Date</b>
<b>Administrative Review</b>	<b>Title</b>	<b>Date</b>

My signature below indicates that I have read this job description.

**Employee**

**Title**

**Date**

**Human Resources Review**

**Job Code Title:**

**Job Code Number:**

**Pay Band:**

My signature below indicates that Human Resources has reviewed this job description for completeness and has made the following determinations:

☐ FLSA Exempt

☒ FLSA Non-Exempt

☒ Telework Available

☐ Telework Not Available

☐ Classification Complete

☐ Organizational Chart attached

**Human Resources:**

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**Signature**

**Title**

**Date**