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|--|--|----------------|-------------------------------|
| Title:<br><b>Engineer</b>  | Effective Date:<br>September 1, 2016   | Grade:<br>XIII | Job Category:<br>Professional |
| Prior Title:<br>Engineer, Engineer I&II, Bridge Design Engineer, Construction Field Engineer I, Design Engineer, Hydraulic Design Engineer | Prior Effective Date:<br>June 25, 2016 | Grade:<br>X    | Page:<br>1 of 2               |

*CHARACTERISTICS OF WORK*

Under immediate supervision, this position is responsible for assisting in various engineering related tasks as required.

*EXAMPLES OF WORK*

The following examples are intended only as illustrations of various types of work performed. No attempt is made to be exhaustive. Related, similar, or other logical duties are performed as assigned. The Department may require employees to perform functions beyond those contained in job descriptions. The Department may modify job descriptions based on Department needs. The Arkansas State Highway and Transportation Department is an "at will" employer.

- Perform engineering duties in planning, design, or the construction and maintenance of Arkansas' roadways and bridges.
- Receive specialized training from designated training personnel.
- Apply engineering techniques, procedures, and criteria within rules, regulations, specifications, and operating procedures of the Department.

*ADDITIONAL EXAMPLES OF WORK APPLICABLE TO BRIDGE DESIGN ENGINEERS*

- Evaluate survey, soil and hydraulic data, and design bridge types as directed for inclusion in the project plans.
- Produce layouts, structural details and related technical drawings using computer-aided design and drafting (CADD).
- Assemble design drawings, specifications and bid quantities, and make cost estimates for completed bridge projects.
- Analyze existing bridge structures for load capacity as part of the Department's continuing bridge inspection and rating program.
- Coordinate with structural detailers in plan preparation of projects which they have designed.

*ADDITIONAL EXAMPLES OF WORK APPLICABLE TO HYDRAULIC DESIGN ENGINEERS*

- Conduct hydrologic and hydraulic investigations and analyses for bridges and other hydraulic structures.
- Investigate highway related drainage problems.
- Coordinate hydrology and hydraulic design with other federal, state, and local agencies.
- Prepare detailed analytical reports in connection with hydrologic and hydraulic studies.

*ADDITIONAL EXAMPLES OF WORK APPLICABLE TO MAINTENANCE ENGINEERS*

- Develop thorough knowledge of all phases of highway maintenance and the Maintenance Management Program.
- Maintain mutually beneficial relationships with District personnel and Area Maintenance Supervisors in order to assist in solving maintenance problems.
- Analyze and recommend solutions to maintenance problems.

*ADDITIONAL EXAMPLES OF WORK APPLICABLE TO MATERIALS ENGINEERS*

- Conduct quality assurance tests of materials used on Department projects.
- Recommend acceptance of test results of materials.
- Assist in the monitoring of materials problems and functions for construction and maintenance activities.

*ADDITIONAL EXAMPLES OF WORK APPLICABLE TO TRANSPORTATION PLANNING AND POLICY ENGINEERS*

- Evaluate travel patterns and produce various traffic models.
- Analyze and recommend solutions to address transportation mobility and safety needs.
- Perform transportation planning activities and conduct planning studies.
- Assess transportation system performance.

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*ADDITIONAL EXAMPLES OF WORK APPLICABLE TO PROGRAM MANAGEMENT ENGINEERS*

- Assist in the coordination of local and state project activities.
- Prepare bid proposals, contract documents, etc.
- Assist with various local federal-aid programs.

*ADDITIONAL EXAMPLES OF WORK APPLICABLE TO SYSTEM INFORMATION AND RESEARCH ENGINEERS*

- Assist in conducting and oversight of various research projects.
- Perform asset related studies and data collection.
- Conduct traffic analysis.

*ADDITIONAL EXAMPLES OF WORK APPLICABLE TO ROADWAY AND STATE AID DESIGN ENGINEERS*

- Conceive, design and evaluate various highway features and recommend alternates for inclusions in project plans.
- Establish horizontal and vertical alignment and right of way requirements for inclusion in plans.
- Compile data and write reports and specifications in conjunction with design plans.
- Compute project cost estimates and assemble estimated quantities for project plans.

*ADDITIONAL EXAMPLES OF WORK APPLICABLE TO SURVEYS ENGINEERS*

- Assist with the planning and execution of highway surveys; compile and analyze data.
- Assist with the review and submission of completed survey data to appropriate Divisions within the Department.
- Evaluate, test, and document advanced geospatial technologies for implementation.
- Provide training to survey crews and consultants in the use of Department data collection and CADD programs.
- Assist in the development and operation of the Department's statewide control network.

*ADDITIONAL EXAMPLES OF WORK APPLICABLE TO FIELD ENGINEERS*

- Assure the effective and complete adherence of approved plans and specifications to result in correct construction of projects.
- Assist in the coordination of Inspectors to assure adherence to specifications.
- Maintain records using SiteManager software to ensure proper estimate payments.
- Analyze plans and recommend needed changes.
- Maintain mutually beneficial relationships with contractor and public to facilitate cooperation and coordination of the project.
- Perform survey work as required.
- Obtain and maintain CTPP certification in Portland Cement Concrete and Soils.
- Frequently drive a Department vehicle to various locations within the District.

*MINIMUM REQUIREMENTS*

Possession of a current *Arkansas* license to practice professional engineering or graduation from an EAC of ABET approved engineering curriculum or equivalent as judged by the Arkansas Board of Registration for Professional Engineers and Land Surveyors. *Civil engineering* degrees are strongly preferred in most engineering positions in the Department; however, degrees from other engineering disciplines, including but not limited to electrical, systems, computer, geomatics, and surveys, may occasionally be considered when vacancies exist in specific areas. Engineer Intern certification required. Valid driver's license required for some positions.

("EAC of ABET" means Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.)