

**CALIFORNIA DEPARTMENT OF TRANSPORTATION  
DUTY STATEMENT**

<b>CLASSIFICATION TITLE</b> Transportation Engineer (Civil)	<b>DISTRICT/DIVISION/OFFICE</b> 56-Maintenance/Structure Maintenance/Office of Structure Investigations (South)	
<b>WORKING TITLE</b> Design Engineer	<b>POSITION NUMBER</b> 913-627-3135-017	<b>EFFECTIVE</b>

**As a valued member of the Caltrans team, you make it possible for the Department to improve the mobility across California by being innovative and flexible; reporting to work as scheduled; working cooperatively with team members and others; and treating others fairly, honestly and with respect. Your efforts are important to each member of the team, as well as those we serve.**

**GENERAL STATEMENT:**

Under the direction of the Branch Chief (a Senior Bridge Engineer), the incumbent performs design and plan preparation of maintenance, preservation, and rehabilitation projects for the State owned bridges and other structures. Incumbent must possess and maintain a valid Class C California Drivers License.

**TYPICAL DUTIES**

(E) Essential / (M) Marginal

- 50% (E) Performs analysis and design calculations, by hand and using computers, and performs related work in the preparation of contract plans and quantities for structure modification, preservation, and rehabilitation projects for the State's Bridges and other structures.
- 30% (E) Review structure specification and estimates. Make recommendations on the use of materials and methods for these projects.
- 5% (E) Performs site reviews related to the State's Bridges for rehabilitation and preservation projects, prepares calculations and writes reports for the same.
- 5% (E) Provides design support to Construction for the bridge rehabilitation, and preservation projects.
- 5% (E) Reviews and approves structural shop drawings and other submittals.
- 5% (M) Provide technical assistance and offer input to other staff members. Liaison with District engineering staff, providing technical assistance when preparing project reports and scheduling contracts on the State's bridges and other structures. Assist other agencies in accessing the Bridge records.

### **SUPERVISION EXERCISED OVER OTHERS**

This position does not supervise other employees.

### **KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS**

- Must possess a valid California registration as a Professional Engineer (Range D only)
- Must have knowledge and understanding of bridge maintenance, design and construction principles and practices.
- Must be thoroughly competent in both statically determinate and indeterminate analysis of steel and concrete bridge structures using both hand calculation and computer programs.
- Must have technical knowledge of stress analysis and repair material properties, as applied to steel and concrete bridge structures.
- The ability to make neat and accurate computations and engineering notes and to prepare engineering reports.
- Must have practical experience required to analyze situations caused by corrosion and major accidents or occurrences and expedite emergency repair schemes.
- Proficiency with Computer Aided Drafting and Design (CADD) and project plan preparation.
- The ability to establish and maintain friendly and cooperative relations and to communicate effectively with those contacted in the course of work.

### **CONSEQUENCE OF ERROR/RESPONSIBILITY FOR DECISIONS**

Incumbent is directly responsible for decisions that determine the condition, improvements, repairs or alterations to the State Bridges that could effect their structural integrity and the safety of the traveling public. Errors in judgment and decisions could affect public safety or result in tort liability for the Department.

### **PUBLIC AND INTERNAL CONTACTS**

The employee will routinely contact other Caltrans personnel, contractors, engineering consultants, vendors, representatives from the Metropolitan Transportation Commission (MTC), the Federal Highway Administration (FHWA) and other outside agencies to transmit or obtain relative engineering information. These contacts will be verbal or written as needed to perform assignments.

### **PHYSICAL, MENTAL AND EMOTIONAL REQUIREMENTS**

Employee must be able to respond to emergency situations and be able to make prompt, responsible decisions on the condition of a structure. Employees may be required to sit for long periods of time using a keyboard and video display terminal. Employees must be able to move large or cumbersome plans and diagrams from one location to another. Employees should feel comfortable at heights and tight surroundings. Must be able to develop and maintain cooperative working relationships and value culture diversity and other individual difference in the workplace.

**WORK ENVIRONMENT**

While in their base operation, employees will work in a climate-controlled office subdivided into open modular cubicles under artificial lighting. Some fieldwork will require the employee to work outdoors in areas with exposure to dirt, noise, uneven surfaces, within close proximity of vehicular traffic (lane closures), tight surroundings, open water, and at considerable heights.

I have read, understand and can perform the duties listed above. If you believe you may require accommodation, please discuss this with the hiring supervisor.

Please Print:

\_\_\_\_\_  
EMPLOYEE'S NAME

\_\_\_\_\_  
EMPLOYEE'S SIGNATURE      DATE

I have discussed the duties with and provided a copy of this duty statement to the employee named above.

\_\_\_\_\_  
SUPERVISOR'S NAME

\_\_\_\_\_  
SUPERVISOR'S SIGNATURE      DATE