

POSITION DUTY STATEMENT

DOT PM-0924 (REV 08/2024)

CLASSIFICATION TITLE Transportation Engineer (Civil)	OFFICE/BRANCH/SECTION DES/Bridge Design/SASA Branch
WORKING TITLE Bridge Engineer (SASA)	POSITION NUMBER 559-240-3135-xxx
	REVISION DATE 11/25/2024

As a valued member of the Caltrans leadership team, you make it possible for the Department to provide a safe and reliable transportation network that serves all people and respects the environment.

GENERAL STATEMENT:

This position exists in the Office of Bridge Design Central. Under the general direction of a Senior Bridge Engineer, the Bridge Engineer (SASA) has primary responsibility for ensuring consistency and uniformity related to the delivery of seismic and special analyses and associated reports for structure design projects.

As part of your employment with DES there is a mandatory TE-Civil Professional Development Rotation Program that applies to all permanent full-time TE-Civils hired after January 1, 2017. Temporary relocation more than 50 miles from your permanent unit may be necessary for rotation assignments.

CORE COMPETENCIES:

As a Transportation Engineer (Civil), the incumbent is expected to become proficient in the following competencies as described below in order to successfully perform the essential functions of the job, while adhering to and promoting the Department's Mission, Vision, Values, Strategic Imperatives and Goals. Effective development of the identified Core Competencies fosters the advancement of the following Leadership Competencies: Change Commitment, Risk Appetite, Self-Development/Growth, Conflict Management, Relationship Building, Organizational Awareness, Communication, Strategic Perspective, and Results Driven.

- **Creativity and Innovation:** Thinks beyond the confines of traditional models to recognize opportunities, seek creative solutions and take intelligent risks. (Cultivate Excellence, Strengthen Stewardship and Drive Efficiency - Innovation)
- **Decision Making:** Makes critical and timely decisions. Takes charge. Supports appropriate risk. Makes challenging and appropriate decisions. (Cultivate Excellence, Strengthen Stewardship and Drive Efficiency - Innovation)
- **Continuous Professional Development:** Seeks to obtain knowledge and improve performance while supporting others in doing the same. (Cultivate Excellence - Engagement, Pride)
- **Problem-solving and Decision-making :** Identifies problems and uses logical analysis to find information, understand causes, and evaluate and select or recommend best possible courses of action. (Cultivate Excellence, Strengthen Stewardship and Drive Efficiency - Engagement)
- **Teamwork and Collaboration:** Sets team structure. Organizes, leads, and facilitates team activities. Promotes team cooperation and encourages participation. Capable of cross functionality and working well with others on a team to achieve personal goals, team goals, and organizational goals. Takes responsibility for individual actions in order to achieve consistent results. (Strengthen Stewardship and Drive Efficiency - Engagement)
- **Customer Focus:** Considers, prioritizes, and takes action on the needs of both internal and external customers. (Cultivate Excellence - Engagement)
- **Interpersonal Effectiveness :** Effectively and appropriately interacts and communicates with others to build positive, constructive, professional relationships. Tailors communication style based on the audience. Provides and is receptive to feedback. (Cultivate Excellence - Engagement)
- **Analytical Skills:** Approaches problems using a logical, systematic, and sequential approach. Weighs priorities and recognizes underlying issues. (Cultivate Excellence, Strengthen Stewardship and Drive Efficiency - Engagement, Innovation)
- **Thoroughness:** Ensures that work and information is complete and accurate. Ensures that assignment goals, objectives, and completion dates are met. Documents and reports on work progress. (Cultivate Excellence, Strengthen Stewardship and Drive Efficiency - Engagement, Pride)

TYPICAL DUTIES:

Percentage
Essential (E)/Marginal (M)¹ Job Description

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45%	E	<p>Works with structure project engineers and staff engineers in conducting seismic or special analyses of bridges and other structures by developing analytical models, generating calculations, and preparing reports. The work will involve the following:</p> <ol style="list-style-type: none"> 1. Seismic analysis of new structures 2. Seismic analysis of existing structures for retrofit purposes 3. Analysis of structures for strengthening needs 4. Bridge load rating analysis. <p>The work conducted will be in accordance with the current and approved bridge design specifications, Seismic Design Criteria, Structure Technical Policies, and other reference material.</p>
30%	E	<p>Prepares planning studies by investigating proposed structure location, span lengths, vertical clearance requirements and staging issues noted in the District planning request. Selects the most viable structure based on the district-supplied data and design guidelines.</p> <p>Calculates material quantities from structure plan sheets to develop the items listed in the Engineer's Estimate. Examples of this include computing the volume of structural concrete, the length of piling, the number of bearing assemblies, etc. These values are readily obtained from simple geometric computations of structure plan details.</p>
20%	E	<p>Acts as a Project Engineer on moderate-sized projects. This work involves communication with the District Project Manager, district designers, geo professionals, and other functional units within the Department, as well as with external organizations such as local transportation agencies and communities.</p>
5%	M	<p>Participates on Bridge Design Technical Teams helps develop guidance material, and processes and procedures for Bridge Design.</p>

¹ESSENTIAL FUNCTIONS are the core duties of the position that cannot be reassigned.

MARGINAL FUNCTIONS are the minor tasks of the position that can be assigned to others.

SUPERVISION OR GUIDANCE EXERCISED OVER OTHERS

This position does not supervise other employees. However, this position may act as a lead worker over several engineers and detailers.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

- Knowledge of basic principles of physics, chemistry, and mathematics as applied to civil engineering.
- Possess a valid certificate of registration as a Civil Engineer issued by the California State Board of Registration for Professional Engineers.
- Knowledge of analysis software, modeling techniques, stress analysis; structural mechanics; strength, properties, and applications of construction materials.
- Knowledge of mathematics as applied to civil engineering; methods, tools and equipment used in design, construction, estimating and specification writing.
- Ability to make independent structural analysis; prepare calculations that can be used by engineers, technicians, and others; interpret design specifications and criteria; work effectively with other people.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

- Has the professional responsibility to assure the safety of the traveling public at a cost that is an effective use of public funds.
- Errors in judgment and decisions could affect public safety or result in liability for the Department.
- Structural failure can be catastrophic due to a loss of life, disruption in goods movement, and/or delays to the traveling public.

PUBLIC AND INTERNAL CONTACTS

Maintains communication with all personnel working on projects to which incumbent is assigned, including other Caltrans personnel, contractors, engineering consultants, and industry representatives to transmit or obtain relevant engineering information. These contacts will be verbal or written, as needed, to perform assignments.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

Incumbent may be required to sit for long periods of time using keyboard and video display terminal. They may also be required to move large or cumbersome plans and diagrams from one location to another. May be required to lift/move/carry various types of portable equipment around the work site or when out in the field.

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WORK ENVIRONMENT

While at their base of operation, incumbent will work in a climate-controlled office under artificial lighting. As a statewide organization, DES adjusts to periods of fluctuating workload to successfully deliver projects. Incumbent will be required to travel and perform fieldwork and will be exposed to dirt, uneven surfaces, extreme temperatures, noise, vibration, and odor associated with fieldwork. May work around bulky/ heavy materials and equipment used in the vicinity of inspection areas. May also be exposed to the motoring public. DES employees may be given temporary assignments on DES projects throughout the State as workload demands.

I have read, understand and can perform the duties listed above. (If you believe you may require reasonable accommodation, please discuss this with your hiring supervisor. If you are unsure whether you require reasonable accommodation, inform the hiring supervisor who will discuss your concerns with the Reasonable Accommodation Coordinator.)

I agree that by providing my electronic signature for this form, I agree to conduct business transactions by electronic means and that my electronic signature is the legal binding equivalent to my handwritten signature. I hereby agree that my electronic signature represents my execution or authentication of this form, and my intent to be bound by it.

EMPLOYEE (Print)

EMPLOYEE (Signature)

DATE

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

SUPERVISOR (Print)

SUPERVISOR (Signature)

DATE

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