

POSITION DUTY STATEMENT

DOT PM-0924 (REV 01/2025)

CURRENT/PROPOSED

CLASSIFICATION TITLE Sr Bridge Eng	OFFICE/BRANCH/SECTION DES/SES/OEEAR	
WORKING TITLE Senior Bridge Engineer (Specialist)	POSITION NUMBER 559-220-3185-037	REVISION DATE 11/25/2025

As a valued member of the Caltrans team, you make it possible to improve lives and communities through transportation.

GENERAL STATEMENT:

Under the direction of a Supervising Bridge Engineer, the incumbent serves as a technical specialist for the Office of Earthquake Engineering, Analysis, and Research (OEEAR) in the Division of Engineering Services (DES). The incumbent works in a team environment to develop and implement Caltrans seismic strategies, policies, and guidance materials; provides technical oversight on seismic criteria and seismic design for important or unusual bridge projects; develops research problem statements and manages and monitors the progress of Caltrans research projects; and supports the OEEAR staff working to identify and prioritize bridges for seismic risk.

The incumbent must have an active Professional Engineering License from the State of California.

CORE COMPETENCIES:

As a Sr Bridge Eng, 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. (Employee Excellence - Collaboration, Innovation, Stewardship)
- **Decision Making:** Makes critical and timely decisions. Takes charge. Supports appropriate risk. Makes challenging and appropriate decisions. (Employee Excellence - Collaboration, Innovation, Stewardship)
- **Initiative:** Ability to identify what needs to be done and doing it before being asked or required by the situation. Seeks out others involved in a situation to learn their perspectives. (Employee Excellence - Collaboration, Innovation, Stewardship)
- **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. (Employee Excellence - Collaboration, Integrity, People First, Stewardship)
- **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. (Employee Excellence - Collaboration, Integrity, People First, Stewardship)
- **Organizational Awareness:** Contributes to the organization by understanding and aligning actions with the organization's strategic plan, including the mission, vision, goals, core functions, and values. (Employee Excellence - Stewardship)
- **Communication:** Expresses oneself clearly in all forms of communication. Gives feedback and is receptive to feedback received. Knows that listening is essential. Keeps others in the Division and other functional units informed as appropriate. (Employee Excellence - Collaboration)
- **Vision and Strategic Thinking:** Communicates the "big picture". Models the department's Vision and Mission to others. Influences others to translate vision into action. Future oriented, and creates competitive and break through strategies and plans. (Employee Excellence - Innovation, Integrity, Stewardship)
- **Technical Expertise:** Depth of knowledge and skill in a technical area. (Employee Excellence - Integrity, Stewardship)

TYPICAL DUTIES:

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

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25%	E	Develops and maintains subject matter expertise in seismic design of bridge and related structures. Leads or supports the Office in specialized topics such as seismic response modification devices, seismic risks, foundations, or complex and unusual structures. Leads and participates in the development and implementation of Caltrans seismic design methods, guidance and policy documents, standards, and specifications to reflect advances in knowledge of earthquake hazards and bridge vulnerabilities.
25%	E	Supports DES and Maintenance Engineers with complex analyses, technical reviews, and training. Performs response spectra, pushover, and non-linear time-history analyses of complex bridge structures including applicable soil-structure interaction, geometric and material non-linearity, large deformation and p-delta effects, response modification devices, multi-support excitation, surface faulting, tsunami waves, liquefaction, lateral spreading, and other seismic hazards. Participates in Type Selections and Retrofit strategizing. Reviews PS&E for conformance with DES policies and standards, with emphasis on seismic-design performance and compliance. Provides support to DES staff completing project delivery tasks and construction oversight of new and retrofit bridge construction. Develops or participates in training materials and courses for DES bridge engineers.
20%	E	Evaluates the likelihood of various damage states for different bridges over time and performs cost-benefit analyses of replacing or retrofitting existing bridges. Collaborates with OEEAR and Structure Maintenance and Investigations (SM&I) staff to develop and maintain a prioritized list of projects in the Bridge Seismic Retrofit program and prioritize Caltrans bridges for seismic hazards, seismic vulnerabilities, and for seismic risk. Coordinates the seismic screening of State Highway System and Local Agency bridges to identify potential seismic vulnerabilities.
20%	E	Develops and reviews research problem statements and strategies to address complex seismic and structural issues. Manages complex structural and seismic research projects performed by universities and develops seismic design details, guidance, and policy to implement research-derived advancements in seismic design practice of bridge and related structures.
10%	M	Makes field inspections of structures for seismic-related evaluations and writes reports with findings and recommendations. Performs duties associated with the Post Earthquake Investigation Team (PEQIT) during responses to seismic events.

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 personnel, however shall act as a lead worker over engineers, technicians, clerical staff, and consultants.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Employee must hold a valid certificate of registration as a Civil Engineer as well as the following:

- Possess a high level of competency in engineering as it relates to design, structural analysis, specification development, construction, earthquake engineering, seismic design methods and research in technical area of expertise.
- Ability to use Caltrans and industry standard computer programs.
- Ability to communicate, both verbally and written, with Caltrans employees at all levels, AASHTO officials, and the general public concerning California policy and design procedures.
- Ability to conduct research and implement findings.
- General knowledge of structure design, construction and maintenance practices.
- Ability to oversee product development and testing, and initiate incorporation into the design process. Must be able to interact with academic and research staff on a peer level, and discuss usable and beneficial results. Must keep abreast of current accomplishments in the seismic safety product field and seismic testing of such products on a worldwide basis. Must be familiar with good principles of project management, and communicate and cooperate with other seismic oriented bridge design personnel.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

Employee in this position has the professional responsibility to perform their duties in a manner that assures 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 loss of life, disruption in goods movement, and/or delays to the traveling public.

PUBLIC AND INTERNAL CONTACTS

Employee shall have extensive knowledge of the seismic analysis and design programs utilized by DES and OEEAR in order to deal frequently with university, public, and private sector engineers. Employee can expect to be frequently called upon for advice from other engineers attempting to apply the current Caltrans seismic safety system criteria in other government and private

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engineering organizations worldwide. Review of other seismic safety system codes for purposes of incorporation into the Caltrans code shall be performed on a continual basis.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

- Employee will be required to sustain mental activity necessary for report writing, problem solving, analyzing and reasoning.
- Employee will be required to develop and maintain cooperative working relationships, respond appropriately to difficult situations, recognize emotionally charged issues or problems, acknowledge various responses, and resolve problems.
- Employee may be required to sit for long periods of time using keyboard and video display terminal.
- Employee may 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 out in the field.

WORK ENVIRONMENT

While at base of operation, employee will work in a climate-controlled office under artificial lighting. Employee may also be required to travel and work outdoors and may be exposed to dirt, noise, uneven surfaces and/or extreme heat or cold.

Employee may be required to travel as necessary to meet with Districts, Local Agencies, consultants, and other entities and partners to effectively carry out the duties of the position.

DES employees may be given temporary assignments on DES projects throughout the State as workload demand.

Employee may telework to complete duties per permanent telework agreements.

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
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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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