

POSITION DUTY STATEMENT

DOT PM-0924 (REV 01/2025)

CLASSIFICATION TITLE Structural Design Technician II	OFFICE/BRANCH/SECTION SM&I/Toll Bridges/Design	
WORKING TITLE Detailer	POSITION NUMBER 913-623-3037-918	REVISION DATE 07/02/2026

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

GENERAL STATEMENT:

This is a full journey level of the series. Under the direction of an engineer and/or lead person, the incumbent prepares difficult or assists in the preparation of complex design, construction, and as-built drawings for a variety (e.g.: concrete, steel masonry and timber) of structures. The incumbent may act as a lead person on less difficult projects in the preparation of plans.

CORE COMPETENCIES:

As a Structural Design Technician II, 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. (Safety, Climate Action, Prosperity, Employee Excellence - Innovation, Integrity, People First, Stewardship)
- Dealing with Ambiguity (Risk):** Can comfortably handle risk and uncertainty, as well as make decisions to act without having the total picture. (Safety, Climate Action, Prosperity, Employee Excellence - Innovation, Stewardship)
- Reliability:** Ability to demonstrate dependability in meeting commitments, and providing a consistent work product. Takes responsibility for individual actions in order to meet deadline demands. (Safety, Employee Excellence - Integrity, People First, 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. (Safety, Employee Excellence - Innovation, Integrity, Pride, Stewardship)
- Teamwork/Partnership:** Develops, maintains, and strengthens partnerships with others inside or outside of the organization through effective communication and collaboration. (Equity, Employee Excellence - Collaboration, Equity, 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. (Equity, Climate Action, Prosperity - Equity, People First, Pride)
- 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. (Equity, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)
- Planning and Results Oriented:** Organizes and executes work to meet organizational goals and objectives while meeting quality standards, following organizational processes, and demonstrating continuous commitment. (Safety, Climate Action, Employee Excellence - Equity, Innovation, Integrity)
- Commitment/Results Oriented:** Dedicated to public service and strives for excellence and customer satisfaction. Ensures results in their organization. (Safety, Employee Excellence - Collaboration, Equity, Pride)

TYPICAL DUTIES:

Percentage Essential (E)/Marginal (M) ¹	Job Description
50% E	Assists design engineers in the preparation of a complete set of construction contract drawings for a variety of above-average difficulty structures (e.g.: multi-span and complex bridges of concrete, steel, masonry and timber, non-standard retaining walls and other highway structures) from engineer's design notes, sketches, and other references by using state-of-the-art technology, i.e. Computer-Aided-Drafting/Design (CADD) and other programs and by following Caltrans structure detailing standards. Assists design engineers in developing details, layout and geometric design by using CADD technology. Prints and plots engineering drawings as needed using printer, plotter, and PDF. Assists design engineers in electronically submitting design plans to DES CADD Support at different stages of project delivery.

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10%	E	Make engineering calculations when required for horizontal and vertical alignment and dimensions for layout of both average and above average difficulty structures based on data supplied by design/project engineers. Checks completed drawings for accuracy and completeness of details.
5%	E	Make preliminary layouts of various types of structures for planning studies using CADD and related computer programs.
15%	E	Calculate or check bridge work quantities for preliminary estimates of structure costs, based on the General Plan, and for final estimates of structure costs, based on detailed construction contract drawings.
15%	E	Complete project as-built records using CADD, based on documents supplied by Structure Construction and/or by the Project Engineer.
5%	M	Take field trips with the design engineers to obtain necessary bridge conditions and measurements. Conduct other project delivery related activities. Conduct other supporting activities as needed and as directed by the supervisor.

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, but may act as lead person to drafting personnel on less difficult projects.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS**Knowledge of:**

- Details, methods, layouts, scale and organization of details used in preparation of structural design, details, construction drawings and as-builts for a variety of structures of above-average difficulty.
- Engineering mathematics, quantity estimates for a variety of structures of above-average difficulty.
- State-of-the-art technology, e.g., CADD and related computer programs used to determine layout, detail drawings and create geometric designs for a variety of structures of above-average difficulty.
- Lead person responsibilities on less difficult projects in the preparation of plans.
- Steel fabrication detailing experiences are desirable.

Ability to:

- Communicate both orally and in writing.
- Follow oral and written directions.
- Interpret complex sketches, drawings and plans encountered in the work.
- Assist in performing geometric design of above-average difficulty for various structures.
- Prepare and check quantity estimates for a variety of structures of above-average difficulty.
- Use state-of-the-art technology, e.g., CADD and related computer programs.
- Assist in training of Drafting Aids and Structural Design Technician I's.
- Analyze situations accurately and adopt an effective course of action.
- Manage time efficiently to ensure timely completion of the assigned works.
- Work both independently and collaboratively to enhance quality and quantity of work.

Analytical Requirements:

- Use of trigonometric calculations and interpretation of the survey notes and computer alignment output in preparing General Plans, site data and locating specific abutments and bents.
 - Must be thoroughly informed in regard to information available from standards.
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RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

The incumbent exercises judgment in the selection of views and standard plans and details used in the preparation of a complete set of plans, which could result in incomplete information in the contract plans and estimates. Incomplete information in the contract plans and estimates could result in unnecessary rework, increased cost and time to produce corrected plans, and possible delay of the project.

PUBLIC AND INTERNAL CONTACTS

Employee maintains communications, generally through the Project Engineer, with various personnel working on the project to which he/she is assigned, including other Department personnel, engineering consultant and industry representatives to transmit or obtain relevant engineering information. These contacts will be verbal or written, as needed to perform one's assignments.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

Employee may be required to sit for long periods of time using keyboard and mouse. They may also be required to lift/move/carry large or cumbersome plans (maximum of 50 pounds). They may be required to lift/move/carry various types of portable equipment, which may weigh up to 50 pounds, around the work site or when out in the field.

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WORK ENVIRONMENT

Employee, when working in office, will work in a climate-controlled environment under artificial lighting. Employee is able to work from home under appropriate teleworking agreement. Employees may also be required to travel to job sites and may be exposed to dirt, noise, uneven surfaces and/or extreme heat or cold.

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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