STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

POSITION DUTY STATEMENT

PM-0924 (REV 11/2017)

CLASSIFICATION TITLE	OFFICE/BRANCH/SECTION	
Mechanical Eng Technician I	DES/Structure Design/OEMWW	
WORKING TITLE	POSITION NUMBER	EFFECTIVE DATE
Detailer	559-240-3595-xxx	10/01/2018

As a valued member of the Caltrans team, you make it possible for the Department to provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability. Caltrans is a performance-driven, transparent, and accountable organization that values its people, resources and partners, and meets new challenges through leadership, innovation and teamwork.

GENERAL STATEMENT:

This is the journey level in the series. Under general direction of a Senior Sanitary Engineer, incumbent prepares complete sets of contract drawings for the difficult and plumbing, mechanical, water and wastewater facilities (e.g.: mechanical, sewage, water and industrial wastewater systems). The incumbent prepares plans and/or quantity estimates for a wide variety of structures including building, bridges, and tunnels.

CORE COMPETENCIES:

As a Mechanical Eng Technician I, the incumbent is expected to develop 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, and Goals.

- **Analytical Skills:** Approaches problems using a logical, systematic, and sequential approach. Weighs priorities and recognizes underlying issues. (System Performance - Teamwork, Innovation)
- **Commitment/Results Oriented:** Dedicated to public service and strives for excellence and customer satisfaction. Ensures results in their organization. (0, Organizational Excellence - Teamwork, Innovation)
- **Computer literacy and application:** Appropriate knowledge of computer applications and other tools necessary to successfully perform tasks. (System Performance - Teamwork)
- **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. (0, Organizational Excellence - Teamwork, Innovation)
- **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. (Organizational Excellence - Innovation)
- **Technical Expertise:** Depth of knowledge and skill in a technical area. (Organizational Excellence - Commitment, 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. (Organizational Excellence - Commitment, Innovation)

TYPICAL DUTIES:

Percentage	Essential (E)/Marginal (M)[1]	Job Description
45%	E	Prepares and assists in the preparation of complete contract plans using Computer Aided Drafting/Design (CADD) equipment for mechanical systems such as; plumbing, mechanical, water, industrial wastewater and sanitary systems for buildings, bridges, tunnels and other transportation related facilities. Checks completed plans for compliance with standards set by the Office Engineer.
30%	E	Makes preliminary layouts of various types of structures for planning studies using the state-of-the-art technology, i. e.,CADD and related computer programs. Coordinates the work with other design disciplines and District personnel.
15%	E	Maintains standard CADD cell library and seed files. Troubleshoots and resolves CADD production problems. Assists in CADD training.
5%	M	Assists in construction inspection of the most difficult mechanical systems and checks completed work for compliance with contract documents.
5%	M	Assists in maintenance inspections of the most difficult mechanical systems and prepares reports.

[1]ESSENTIAL 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.

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SUPERVISION OR GUIDANCE EXERCISED OVER OTHERS
None

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS
Knowledge of: Details, methods, layouts, scale and organization of details used in the preparation of mechanical design, details, construction drawings and as-builts for a variety of buildings and 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; codes and specifications governing structural design and construction used in making engineering calculations for a variety of building and structures of above average difficulty, and; leadperson responsibilities on less difficult projects in the preparation of plans.

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; use state-of-the-art technology, e.g., CADD and related computer programs; assist in the training of Drafting Aids and Structural Design Technician I's, and; analyze situations accurately and adopt an effective course of action.

Analytical Requirements; the 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 regards to information available from standards.

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 a 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 worksite or when out in the field.

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.

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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.)

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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