

POSITION DUTY STATEMENT

PM-0924 (REV 7/2014)

CLASSIFICATION TITLE Transportation Engineer - Civil	OFFICE/BRANCH/SECTION D8/Construction Division/Materials Engineering	
WORKING TITLE Materials Engineering TE	POSITION NUMBER 908-208-3135	EFFECTIVE DATE

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:

Under the direction of the Senior Transportation Engineer, the incumbent prepares Materials Reports for construction projects in the District. These reports include pavement section recommendations, rehabilitation strategies and culvert corrosion prevention recommendations.

TYPICAL DUTIES:

Percentage	Essential (E)/Marginal (M) ¹	Job Description
30%	E	Prepares Materials Reports and corrosion investigations.
30%	E	Plans and coordinates field sampling and testing of engineering materials for preparation of Materials Reports.
10%	E	Provides materials engineering analysis for investigating various pavement problems and makes recommendations for chip seals, new pavement and rehabilitation.
10%	E	Acts as liaison with District Project Development and the Engineering Service Center staff in preparation of Geotechnical and Foundations Reports and other materials engineering issues. Attends Team Meetings with District Project Development and the Engineering Service Center staff in preparation of Geotechnical and Foundations Reports and other materials engineering issues.
10%	M	Provides specialized assistance to Construction personnel regarding engineering materials and construction methods. Provides Construction personnel updated specifications and Practices concerning engineering materials and construction methods.
10%	M	Maintain interaction with Headquarters personnel concerning special steadiness, current materials specifications and construction methods. Provides lane closures and coring support to HQ materials functional units concerning special studies, current materials specifications and construction methods.

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

None. However, may work in a lead capacity performing field investigations and developing various materials reports and studies.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Knowledge of all basic principles of physics; chemistry and mathematics as applied to civil engineering/surveying; properties and uses of engineering construction materials; operation and use of surveying equipment; methods and use of office equipment; field lab equipment and testing processes.
 Knowledge of structure foundations, test equipment, field instrumentation procedures, and soil/material sampling.
 Ability to make neat and accurate computations, engineering/survey notes, prepare reports, assist with making and interpreting less difficult survey calculations.
 Ability to establish and maintain friendly and cooperative relations with those contacted in the course of work and to communicate effectively.
 Ability to apply sound judgement in testing/surveying situations and the ability to analyze factors capable of affecting test/

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calculation results.

Assist with the interpretation of preliminary design request and construction plans.

Ability to make decisions in the absence of higher-ranking personnel to assure project flow and appropriate elevate issues.

Ability to operate office equipment; i.e., computers, telephone, fax and copier machines. Assist with the collection and operation of the Department's data collection system with regard to field collection methods and if desired, the software applications used.

Ability to comprehend and analyze specifications requirements and test methods as they relate to the Contract Specifications/Survey Standards. Ability to assist with the interpretation of preliminary design request and construction plans.

Ability to recognize deficiencies as they arise and develop workable, effective solutions.

Recognize and report any possible hazards or safety violations that may adversely affect property, employees or the general public. Understand and practice all applicable safety procedures.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

Responsible for performing the field operations in a safe manner consistent with current safety procedures and in developing work plans for preparation of Materials Reports which will not delay the completion of construction projects.

PUBLIC AND INTERNAL CONTACTS

The incumbent will be a representative of the Materials Engineering Branch in Project Development team meetings; which will include staff from other District branches and local agency representatives. Will meet with public agencies in obtaining the proper permits and maintenance staff for lane closures in performing field investigations.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

Physical: Outdoor activities require the ability to traverse on even and uneven/hilly surfaces, stoop, bend, kneel and move test equipment or materials. Physical activities vary and any singular physical requirement may be for lengthy periods of time. Must be able to travel for sustained periods of time and/or on uneven terrain. The locations of construction sites may necessitate traveling on long stretches of highway in mountains and/or desert. Field activities may include exposure to moving traffic, loud noises, extreme heat and cold temperatures, dust, uneven terrain and moving heavy construction equipment. May require fieldwork at night. Night work requires the ability to work with artificial lighting. Ability to be aware of and maintain alertness to the environment is critical. Required to wear and utilize protective clothing; i.e., hard hat, safety footwear, vests, coveralls eye protection, hearing protection and respirator equipment.

Mental: Must sustain mental effectiveness to write reports, perform tests, identify equipment and materials, analyze problems and take the initiative to resolve the problems.

Emotional: Must be able to maintain emotional control during conflicts. Must be able to develop and maintain cooperative working relationships, respond appropriately to difficult situations; recognize emotionally charged issues or problems and perform appropriately for a situation.

WORK ENVIRONMENT

The position requires the incumbent to work both indoors and outdoors. While indoors performs tasks related to writing reports, performing analysis and communicating with other personnel. Office space may be in the office building and/or trailers.

Field activities include exposure to moving traffic, loud noises, extreme heat and cold temperatures, dust, uneven terrain and moving heavy construction equipment. May require fieldwork at night. Night work requires the ability to work with artificial lighting. Ability to be aware of and maintain alertness to the environment is critical. Required to wear and utilize protective clothing; i.e., hard hat, safety footwear, vests, coveralls eye protection, hearing protection and respirator equipment.

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.)

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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