STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

POSITION DUTY STATEMENT

PM-0924 (REV 7/2014)

CLASSIFICATION TITLE	OFFICE/BRANCH/SECTION	
Materials and Research Engineering Associate (Specialist)	D8/Construction - Southern Regional Laboratory	
WORKING TITLE	POSITION NUMBER	EFFECTIVE DATE
MREA	908-500-3381-024	

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 a Senior Transportation Engineer, Caltrans and the lead of a Transportation Engineer (Civil), the incumbent will perform calibrations, testing and analysis of soils, aggregates, Concrete Masonry Units (CMU), steel, asphalt, and concrete samples at the Southern Regional Laboratory (SRL) and in the field. Possession of a valid class C driver's license is desirable.

TYPICAL DUTIES:

Percentage	Essential (E)/Marginal (M)[1]	Job Description
50%	E	Perform technical and physical testing of soils, aggregates, asphalt concrete, Portland cement concrete, CMU, steel, and base materials. These tests include all California Test Methods and other test methods (ACI, UBC, ASTM, AASHTO, etc.) necessary to perform mix design for asphalt concrete pavement, Portland cement concrete pavement, base materials, and geotechnical analysis of soil. Receive concrete cylinders, reinforcing steel and CMU from field staff. Perform all necessary testing in accordance with ASTM, AASHTO, and CTM. Perform steel tensile, bend tests, CMU, and compressive tests in accordance with AASHTO and ASTM. Prepare and ship samples to Headquarters as needed. Perform field duties of collecting roadway profiles with the Inertial Profiler and pavement studies with the Falling Weight Deflectormeter.
20%	E	Calibrate testing equipment used at the materials laboratory in accordance with either the equipment manufacturer's calibration procedures or the procedures dictated by the test method. Ensure that proper arrangements are made for others to calibrate equipment that cannot be calibrated in-house.
15%	E	Maintain records of all equipment calibrations in accordance with the Quality Assurance Program. Monitor inventory of laboratory testing equipment in compliance with Quality Assurance Program Guidelines and California Test Method requirements. Prepare reports, charts, and graphics of materials analyzed in the laboratory.
15%	M	Assist with training technicians working in the lab. Occasionally attend meetings and conferences. Perform other Materials and Research Engineering Associate (Specialist) duties.

[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.

SUPERVISION OR GUIDANCE EXERCISED OVER OTHERS

None. Incumbent may work in a lead capacity with co-workers.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Must have knowledge of California Test Methods, materials, tools, and equipment used in inspecting and testing a wide variety of construction and other materials; physical environmental impact assessment evaluations and mitigation processes, physical properties and uses of engineering construction materials, fabrication of construction materials.

Must be able to utilize mathematics to make calculations using percentages or ratios and plot data to evaluate test results. Must have the ability to interpret plans and specifications, analyze and check all necessary test reports on materials incorporated in the work for conformity to applicable specifications.

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Must have the ability to communicate effectively both orally and in writing, and must recognize the importance of working as a team; must have ability to test the quality and suitability of engineering construction and other materials, do research work on engineering construction and other materials, evaluate physical and environmental impact assessments and take effective action, prepare reports and dictate correspondence. Must have the ability to establish effective communication channels with the supervisor, Caltrans Headquarters and District personnel, and the public. Must also have command of basic computer applications such as Microsoft Word, Outlook, Excel, FileMaker Pro, and Caltrans custom-made applications.

Must have the ability to establish and maintain good and professional working relationships with other Department units, industry personnel, and contractors working on Department projects. Must be familiar with and able to follow Department policies and procedures.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

Must be able to effectively follow directions and testing procedures and record and file data properly. Failure to adhere to directions and procedures may result in inaccurate test results that could reduce the service life of the constructed facility or result in costly claims to the State.

PUBLIC AND INTERNAL CONTACTS

Will maintain close communications with supervisor and other inspection offices. Has daily and frequent contact with fellow branch offices and District and Headquarters TransLab personnel regarding test results and inspection reports.

As a representative of the Department and the State of California, the incumbent is expected to maintain fair, impartial, and effective relationship with clients, and conduct oneself in a professional and courteous manner at all times.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

Physical activities vary and may last a lengthy period of time. May be required to use a keyboard and video display terminal to enter and audit data. While working in the laboratory, may be required to stand for extended periods of time to perform materials testing in and around test equipment. Requires manual dexterity to operate testing equipment and handle materials. Will be required to be tested and fitted to wear a respirator while working in the laboratory (capping compound). May occasionally be required to move equipment and test materials that require lifting up to 50 pounds. Will handle concrete cylinders weighing 35 pounds multiple times; it is anticipated that more than thirty cylinders will be processed in a single shift. Multiple lifting of Blocks and Reinforcing Steel Members on a daily basis may be necessary.

May be required to travel to other Districts to train laboratory personnel on specific test methods. When working in Districts, may be required to stand for long periods of time, pull, push, bend, stoop, and squat to examine testing equipment; must maintain mental awareness and physical agility when working in the proximity of laboratory machinery. May be required to perform field duties of collecting roadway profiles with the Inertial Profiler and pavement studies with the Falling Weight Deflectometer. May be required to drive a motor vehicle.

Will be required to develop and maintain cooperative working relationship and respond appropriately to difficult situations. Must behave in a fair and ethical manner toward others and demonstrate a sense of responsibility and commitment to public service. The incumbent will value cultural diversity and other individual differences in the workforce. Will consider and respond appropriately to the needs, feelings, and capabilities of different people in different situations.

WORK ENVIRONMENT

Will work in a climate-controlled environment under artificial lighting. Most of the workday will be in the laboratory where there is exposure to extreme heat, chemicals, odors, dust, and noise from laboratory testing equipment. For some part of each day, will work in a climate-controlled office. Both environments are under artificial lighting. May occasionally be required to travel and work outdoors and may be exposed to dirt, noise, uneven surfaces, and/or extreme heat or cold.

Working hours will be set sometime between 6:00 a.m. and 6:00 p.m. May be required to work nights, weekends, and split shifts. Vacations may be restricted during peak times. May be required to travel to other satellite locations for training and/or meetings.

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