CALIFORNIA DEPARTMENT OF TRANSPORTATION
DUTY STATEMENT

CLASSIFICATION TITLE Materials & Research Engineer Associate	**DISTRICT/DIVISION/OFFICE** HQ/Engineering Services/Structural Materials	
WORKING TITLE Materials & Research Engineer Associate	**POSITION NUMBER** 559-318-3381-006	**EFFECTIVE** - - -

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 Bridge Engineer, the Materials & Research Engineer Associate (MREA) will perform the typical duties within the Office of Structural Materials (OSM) Concrete Materials Testing Branch (CMTB). The primary function of the Office of Structural Materials (OSM) is to ensure that materials and products used by the California Department of Transportation (Caltrans) construction projects comply with contract requirements. The MREA performs testing in the CMTB on a variety of materials associated with the construction of roadways and concrete structures as part of the overall Caltrans transportation system. The MREA works closely with the CMTB Chief to provide clear, effective and timely technical information to OSM clients based on laboratory testing results. The MREA prepares daily reports on quality assurance testing for various sources of materials and is responsible for reporting these results as appropriate. The MREA coordinates the work of lab personnel to obtain test results on sampled materials in a timely fashion. The MREA is instrumental in obtaining and maintaining AASHTO accreditation and ensures compliance with ASTM C1077. The MREA must be certified in required California Test (CT) and American Concrete Institute (ACI) test methods for the AASHTO Accreditation Program.

TYPICAL DUTIES

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

- Essential Functions are the core duties of the position that cannot be reassigned.
- Marginal Functions are minor tasks of the position that cannot be assigned to others.

50% (E) Performs quality assurance testing on various concrete materials to be delivered to construction projects. Coordinates lab work to ensure timely testing of these materials. Assists in the performance of testing to ensure conformance with contract plans and specifications. This work includes data collection and reduction, making mathematical calculations, record keeping, test preparation, set up and operation of test equipment, and performing testing.

40%(E) Generates various OSM reports, including testing reports which are sent to OSM Source inspectors. Technical writing related to the evaluation of materials include the

Preparation of correspondence related to the materials tested. Assists in making special studies and preparing technical reports. Provides technical assistance within expertise to other OSM personnel. Coordinates the maintenance, purchasing, and calibration of laboratory equipment. Acts as a mentor to new and existing staff to maintain a teamwork atmosphere.

5%(M) Responsible for coordinating the laboratory testing needed to maintain laboratory AASHTO accreditation and is the lead tester of CT and AASHTO test methods. Responsible for and coordinates testing of CCRL reference samples. Maintains required ACI certifications of self and staff. Participates on OSM technical committees. Prepares, reviews, or recommends changes to specifications and test methods to the Branch Senior.

5% (M) Other duties as assigned by Branch Chief

SUPERVISION EXERCISED OVER OTHERS

Act as the lead person of the laboratory. This responsibility is job-oriented and does not include complete personnel supervision such as discipline and attendance.

KNOWLEDGE, ABILITIES AND ANALYTICAL REQUIREMENTS

Employee must have knowledge of Caltrans Construction projects including applicable standards and plans, codes, national associations, etc. Employee must have knowledge of the materials used in these projects, testing procedures, inspection procedures, sampling and reporting activities and knowledge of labor and safety practices in the Caltrans projects. Employee 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.

Employee must have the ability to communicate clearly and efficiently with supervisor, other members of the Division of Engineering Services, and the public. Employee must also have command of basic computer applications such as Lotus Notes®, Microsoft® Excel, FileMaker Pro®, Microsoft® Word, and Caltrans custom-made applications.

Employee must have the ability to establish and maintain good and professional working relationships with other Department units, the fabricating industry and the contractor on Department projects.

CONSEQUENCE OF ERROR/RESPONSIBILITY FOR DECISIONS

The MREA is directly responsible for the results of the tests performed, the calculations and reports prepared, and the acceptance or rejections of the materials tested. Wrong decisions

have the potential of jeopardizing the integrity of structures, which in turn could affect safety, contract claims, and contract schedule.

In addition, release of confidential material could result in legal actions and loss of integrity of the office and Department.

PUBLIC AND INTERNAL CONTACTS

Maintains close communications with supervisor, and other inspection offices. Has daily and frequent contact with fellow branch office and Headquarters Translab personnel regarding test results and inspection reports. Maintains fair, impartial, effective, and professional relationship with suppliers, fabricators, and manufacturing plants.

PHYSICAL, MENTAL AND EMOTIONAL REQUIREMENTS

The employee must be in good physical condition, capable of standing, climbing, stooping and performing physical tasks, which include lifting up to 65 pounds and moving relatively heavy loads up to 100 pounds. Employees may be required to sit for long periods of time (1) using a keyboard and video display terminal and (2) reviewing and auditing data. Employee will be required to sustain the mental activity needed for writing, auditing, problem solving, analysis and reasoning; will be required to develop and maintain cooperative working relationship and respond appropriately to difficult situations. Employee may be required to stand for long periods of time; pull, push and squat to examine materials and products; climb uneven terrain; maintain mental awareness and physical agility when working in the proximity of the motoring public. Employee may be required to drive a motor vehicle and must have a valid California driver's license.

WORK ENVIRONMENT

While at their base of operation, employee will work in a testing laboratory and will be exposed to chemicals and dust generated by specialized laboratory equipment. Employee may be required to be tested and fitted to wear a respirator while working. When in the office will be exposed to hazards associated with standard office equipment. When performing inspection duties, employee may work around bulk quantities of building materials, heavy equipment, and machinery. Employee may work outdoors and may be exposed to dirt, noise, uneven surfaces, and/or extreme heat or cold.

I have read and understand the duties listed above and can perform them with/without reasonable accommodation. (If you believe you may require reasonable accommodation, please discuss this with the 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's Name (please print) Employee's Signature Date

I have discussed the duties with and provided a copy of this duty statement to the employee named above.

_____ _____

Supervisor's Name (please print) Supervisor's Signature Date