STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

POSITION DUTY STATEMENT

PM-0924 (REV 7/2014)

CLASSIFICATION TITLE	OFFICE/BRANCH/SECTION	
Materials & Research Engineering Associate	District 7/Construction/Plants Services	
WORKING TITLE	POSITION NUMBER	EFFECTIVE DATE
Plants and Materials Inspector	907-501-3381-	

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, the Materials and Research Engineering Associate (MREA) Specialist inspects plants during production of Hot Mix Asphalt Concrete (HMA), PCC and other related materials and performs complex materials testing work to ensure that manufactured materials used on projects meet Caltrans specifications, contract requirements and quality requirements.

TYPICAL DUTIES:

Percentage	Essential (E)/Marginal (M)[1]	Job Description
35%	E	Inspects plants operation during the production of Hot Mix Asphalt Concrete, Portland Cement Concrete and other related materials. Samples and tests rock and sand according to Caltrans test methods and the Construction manual. Obtains samples of oil binders, cements and admixtures in accordance with the requirements of the Construction Manual. Perform Plant Inspection duties in accordance with the California Test Methods, the frequency of testing shown in the Caltrans Construction Manual, the contract Special Provisions. Prepares and submits plant reports to the Resident Engineer in a timely manner. The MREA Specialist acts as a Lead Worker and reviews the testing, sampling, and material test report documentation of both state and consultant Plant Inspectors.
35%	E	Performs Material Plant Quality Program (MPQP)/ (CT-109) for HMA and PCC plants at the request of the Resident Engineer or Structures Representative. Witness the testing of scales or meters in compliance with the MPQP/ (CT-109) test procedure. Provide information to Resident Engineers and Structure Representatives regarding the adequacy of scales and the validity of seals. Compiles and keeps plant inspection reports and other plant documents. Maintain a file on the current status of scales used for weighing materials for Caltrans construction projects. Performs spot-checks of weighing and metering devices. The MREA Specialist reviews the MPQP/ (CT-109) certification work of the Plant Inspectors and may act s as a Lead Worker for this assigned task.
15%	E	Performs pavement smoothness testing using the inertial profiler. Reviews plans, specifications, and contract provisions pertaining to pavement smoothness. Assists in the calibration, maintenance, and inventory of inertial profiler equipment in accordance with the procedures shown in California Test 387. The MREA will utilize ProVAL software for pavement smoothness evaluation.
5%	M	Acts as a Lead Worker for the tasks of calibration, maintenance and inventory of material used for the sampling, testing, and evaluating of materials produced at batch plants used on Caltrans construction projects. Responsible for the preparation of the Annual Source Inspection Evaluation.
5%	M	Visits quarries and mine pits to witness material source sampling, stockpiling and testing to monitor the source of materials, storage and handling of materials to determine the presence of segregation and/or cross contamination of aggregate stockpiles.

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5%	M	Acts as a Lead Worker for the task of preparation of equipment and supply purchase orders used for the testing and sampling of construction materials produced at batch and volumetric plants. Attends Construction Pre-job Meetings.

[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. This person acts independently under the general direction of the Senior Materials Engineer. It is normally expected that this employee will act on his or her own except under extraordinary situations.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

- Knowledge of physical properties and uses of engineering construction materials used in state transportation projects.
- Familiarity with weighing and batching equipments.
- Knowledge of how materials are placed, sampled, and tested.
- Knowledge of construction contract documents including Plans and Specifications.
- Knowledge of the Standard Specifications and Special Provisions relating to material testing.
- Knowledge of sampling and testing frequencies shown in the Construction Manual, in the QC/QA procedures, or as outlined in the Special Provisions.
- Ability to interpret material test data and visually recognize basic material properties throughout production and placement.
- Ability to work independently, make clear recommendations, prepare concise reports/documentation, and work constructively with others.
- Analytical determination of material acceptability and interpretation of material problems.

This position requires the understanding of applied science for the construction of pavements and related structures, as well as the equipment for testing construction materials and soils, the evaluation of state of the art equipment for testing soils, aggregates, and pavements, the test methods used by Caltrans, and the analysis and interpretation of test result data.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

Failure to follow the testing procedures will provide a false reading as to the strength and durability of the underlying soil or roadway pavement material which may result in an inferior material being placed within the state transportation system. This can lead to a premature need for maintenance to replace or repair the work that was done incorrectly. The plant inspector needs to follow the testing procedure and maintain his current California Test Method Certification. He/ She also needs to make sure that all field testing apparatus have current calibration.

PUBLIC AND INTERNAL CONTACTS

There is little contact with the general public. Contacts are with Resident Engineers, Construction Inspectors, Field Materials Personnel, and Consultants acting in any of the aforementioned capacities. Maintains a professional working relationship with the contractor.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

The employee must be capable of working at different time schedules both day and night as well as weekends depending on the project requirements. The employee must be capable of lifting up to 50 pounds. The employee will need to be able to develop and maintain cooperative working relationships, be flexible enough to respond appropriately to difficult situations, and recognize issues and varied responses due to the diverse personalities of contacts and co-workers.

WORK ENVIRONMENT

This inspector will often be required to work a normal day shift and then report for work again in the middle of the night to inspect a plant in operation for several hours. All of the plants have hazardous truck traffic, noise, dust and dangerous machinery. Taking samples of cement and fly ash can be a dusty and dirty procedure and is required. Samples of hot liquid paving asphalt must also be taken and handled. Exposure to some of these samples can be hazardous to good health. Sometimes this person will be assigned a night shift for a month or more. He/She may also be required to work

nights and weekends.

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