

**CALIFORNIA DEPARTMENT OF TRANSPORTATION
DUTY STATEMENT**

CLASSIFICATION TITLE	DISTRICT/DIVISION/OFFICE	
Transportation Engineering Technician	59/DES-METS/Office Roadway Materials Testing Asphalt Binder & Hot Mix Asphalt Laboratory	
WORKING TITLE	POSITION NUMBER	EFFECTIVE DATE
TET	559-320-3175-XXX	January 10, 2014

As a valued member of the Caltrans team, you make it possible for the Department to improve the mobility across California by being innovative and flexible; reporting to work regularly and on time; working cooperatively with team members and others; and treating others fairly, honestly and with respect. Your efforts are important to each member of the team, as well as those we serve.

GENERAL STATEMENT

Under the direction of the Chief of the Asphalt Binder & Hot Mix Asphalt Laboratory, the Transportation Engineering Technician (TET) is responsible for the testing and the reporting of test results for samples of highway asphaltic materials that are used statewide. The TET performs laboratory tests on asphaltic material samples using test equipment, standard test methods, and computers to compile test data and prepare test reports or other documentation. The work environment for the TET is primarily a materials testing laboratory within an indoor climate controlled facility and under artificial lighting. The laboratory's work requires the TET to sit or stand for extended periods of time. On occasion, travel and outdoor activities associated with obtaining material samples and/or training are required. Professional conduct is required at all times.

TYPICAL DUTIES

Percentage Job Description

Essential (E)/Marginal (M)

- 55% (E) Conducts tests and compiles test results on asphaltic material samples, which include neat asphalt binders, asphalt rubber binders, modified asphalt binders, asphalt modifiers, and asphalt emulsions. Participates in training for testing procedures, equipment care, use, documentation, and test result reporting. Obtains test method certification through Caltrans for California Test Methods (CTMs), and through the Asphalt Institute (AI) for some of the American Association of State Highway and Transportation Officials (AASHTO) Test Methods, and for Binder Technician Certification. Performs laboratory testing and documentation as directed by the supervisor and/or the laboratory lead worker. Performs proficiency sample testing for laboratory certification. Enters and retrieves testing data to and from a computerized database. Assists with correlation studies of materials and/or testing equipment.
- 25% (E) Maintains testing equipment by cleaning, troubleshooting, and performing minor

repairs. Calibrates testing equipment per established schedule, or as necessary. Advises lead-worker and supervisor if maintenance or calibration efforts require extraordinary effort. Documents the maintenance and calibration activities for each piece of equipment. Assists with the development, documentation, and implementation of new or modified test methods for asphaltic materials that are used in flexible pavements and their surface treatments.

10% (E) Assists in logging of samples received by the lab, and assists in reporting of results to Construction and/or other requestors. Assists with communications informing engineers and technicians regarding received samples, test procedures, and test results. Checks co-workers' reports for accuracy and standardization for internal laboratory quality control. Compiles raw data taken from the asphalt testing equipment, inputs the data into various software applications (e.g., MS-Word or MS-Excel), and then updates electronic test data files.

10% (M) Performs assignments as directed by the supervisor, performs general laboratory housekeeping, and assists with equipment and supplies purchasing. Occasionally checks database records for data requests or special reports. Assists with laboratory storage area activities and inventory functions.

SUPERVISION EXERCISED OVER OTHERS

The TET's position has no supervisory responsibilities, but must work as a member of a team to produce test results, reports, and compile other information in a timely manner for the Department's staff and/or others that have requested asphaltic materials testing by the laboratory.

KNOWLEDGE, ABILITIES AND ANALYTICAL REQUIREMENTS

The TET must have a general knowledge of highway construction techniques and the materials associated with highway construction and maintenance.

The TET must have a general knowledge of laboratory testing equipment maintenance, care, and operations, and safe laboratory practices.

The TET must have a good working knowledge of math and computer software applications.

The TET must have the ability to work effectively with a multi-disciplinary technical staff, and must have the ability to communicate effectively, both orally and in writing, in the English language using tools such as e-mail, a telephone, or in-person conversations.

The TET must have the ability to complete training assignments, and subsequently train others.

The TET must have the ability to learn and understand equipment maintenance or calibration procedures, test methods, or engineering instructions for laboratory testing, and must be capable of following, in strict accordance with, those detailed procedures, methods, or instructions.

The TET must have the ability to perform tests repeatedly with precision and accuracy, and must be capable of completing a quantity of tests in a time wise efficient fashion on a daily basis, and have the ability to perform (after the proper training) the numerous materials tests the laboratory conducts.

The TET must have the ability and analytical skills to become certified in test procedures.

The TET must have the ability to follow the appropriate Caltrans safety requirements and comply with the requirements of the Caltrans Safety Manual and/or the Caltrans Laboratory Safety Manual, and must be capable of learning and practicing safe testing procedures.

The TET must have ability to handle and work with hot asphaltic materials, and be capable of using asphalt cleaning substances and equipment, as well as various laboratory instruments, glassware, and/or tools.

The TET must have the ability to work with equipment that is highly technical in nature, have the ability to perform minor testing equipment repairs and maintenance, and be capable of cleaning the testing equipment, tools, and glassware.

The TET must have the ability to use computer applications to collect and report test data (e.g., MS-Outlook for e-mail, and the Microsoft Office Suite of MS-Word, MS-Excel, MS-PowerPoint, and MS-Access).

The TET must analyze other in process testing functions within the laboratory and be cognizant of the other test procedures and safety issues.

The TET must analyze safety issues and to be responsible for himself/herself, co-workers, and the laboratory equipment.

The TET must analyze his/her surroundings at all times, analyze the laboratory conditions and testing procedures, and take the appropriate action(s) as necessary to complete the work as efficiently and safely as possible.

The TET must analyze the test data upon data acquisition, determine the validity and accuracy of the data, and ascertain whether to proceed with testing and/or to repeat a previous test before reporting the results of the test.

CONSEQUENCE OF ERROR/RESPONSIBILITY FOR DECISIONS

As an asphaltic materials tester, the TET is responsible for the accuracy of the test results produced. Inaccurate test results could lead to increased maintenance costs and/or costly early pavement rehabilitation. Incorrect results and/or irresponsible actions by the TET could also result in costly delays of Caltrans construction projects and/or claims or lawsuits against the state.

In addition, the TET is responsible for personal and team safety as outlined in the Caltrans Safety Manual, the Caltrans Laboratory Safety Manual, the safe practices and standards of the tests being conducted, and the equipment involved. Failure to act in accordance with these standards and practices could result in personal injury, injury to others, and/or to the destruction of state property.

PUBLIC AND INTERNAL CONTACTS

The TET communicates with Caltrans Construction, Maintenance, and Materials Engineering staff when transmitting test results, and when responding to inquiries regarding test results and test procedures. The TET has limited contact with representatives of industry as well as officials from local, state and federal agencies while communicating test results. The TET position has some contact with the multi-disciplinary staff within Caltrans and occasionally with contractors and local agencies regarding ongoing construction testing. The laboratory lead worker is generally the primary office contact with the materials testing requestors, and the TET is the testing information contact for specific tests. No official contact with the public is expected; however, the TET may spend a considerable amount of time amongst the public while conducting field work. Occasional contact with out of state or in state agencies, manufacturer representatives, and/or university personnel during calibration and/or correlation work is expected. Professional conduct is required at all times.

WORK ENVIRONMENT

For the majority of each day, the employee will work in a testing laboratory and may be exposed to dirty surfaces and equipment, odors, hot liquids, open flames (Bunsen burners), and hot equipment. For some part of each day, the employee will work in an office cubicle. Both environments are under artificial lighting, and are climate controlled. The TET will be required to sit and work with a computer for extended periods, or stand and work with materials and laboratory equipment for extended periods. The TET will be assigned time-dated tasks within his/her overall work assignments, and have his/her work reviewed for quality by the supervisor or the laboratory lead worker (an M&REA).

The employee may occasionally be required to travel and perform some field work, and may be exposed to dirt, noise, uneven surfaces, and/or extreme heat or cold. For field work, the TET will be required to travel using state vehicles and work in a natural outdoor environment. When in the

field, the TET may be exposed to highway traffic, construction activities, and/or plant operations. The TET will be required to wear personal protective equipment while in the field and use professional conduct at all times.

PHYSICAL, MENTAL AND EMOTIONAL REQUIREMENTS

The TET will be required to sit or stand for long periods of time when using the various pieces of testing equipment, when reading and recording test results, and/or when reviewing and calculating data. The TET will be required to sustain the mental activity needed for conducting tests and calculating results. Problem solving, analysis, and reasoning will be required to respond appropriately to situations, and to develop and maintain cooperative working relationships.

The TET is required to sit and work with a computer for extended periods of time using a keyboard, mouse, monitor, and printer to generate testing data files while in the office. The TET is also required to use a facsimile machine, photo copying machine, and a telephone. Simple grasping and manual dexterity is required to manipulate small objects. The TET is required to repetitively use his/her hands for keyboard usage, mouse usage, or small tool grasping and usage. The TET is required to repetitively use hand controls, foot controls, and be capable of twisting his/her neck and body while driving state vehicles. The TET is required to use hand/eye coordination with manual dexterity to operate testing equipment controls, or to quickly type information on a computer keyboard and view a computer monitor while operating the testing unit. Sitting, walking, kneeling, crouching, climbing in and out of vehicles, bending, twisting, and standing for extended periods of time are required to perform the various testing functions. When the TET encounters uneven terrain while working in the field, he/she is required to maintain physical agility while working in the proximity of motorized equipment. The TET is required to lift and carry tools, supplies, or materials up to 35 pounds, and is occasionally required to lift and carry tools, supplies, bench top testing equipment, or testing materials up to 50 pounds.

The TET will be required to sustain the mental activity needed while testing for extended periods of time, working in the field, writing data files, checking data, problem solving, data analysis, and reasoning. The TET will be required to maintain mental awareness while working in the proximity of the hot asphaltic materials and test equipment during testing. The TET will be required to perceive the needs and problems of setting up lab equipment and make appropriate decisions with respect to the applicable maintenance or calibration procedure, test method, or engineering instructions.

The TET will be required to develop and maintain cooperative working relationships with co-workers, his/her work laboratory lead worker, his/her supervisor, and others. The TET will be required to meet and deal tactfully with other Caltrans staff and/or others, as needed, in the performance of his/her job functions. The TET will be required to respond appropriately to difficult situations and take the appropriate actions when necessary. The TET will be required to travel statewide up to 10% of the time, as a driver, operator, or passenger in state vehicles, or as a passenger on a commercial airline. The TET will be required to use professional conduct at all times.

I have read and I understand the duties listed above, and I can perform them with/without reasonable accommodation.

[Note: 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 Name (Print)
Transportation Engineering Technician

Employee Signature

Date

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

Supervisor Name (Print)
Senior Transportation Engineer, Supervisory

Supervisor Signature

Date