

Incumbent:
Effective:

**DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
MATERIALS ENGINEERING AND TESTING SERVICES AND
GEOTECHNICAL SERVICES
POSITION DUTY STATEMENT**

CLASSIFICATION TITLE	DISTRICT/DIVISION/OFFICE	
Transportation Engineer (Civil)	DES, METS/GS Office of Geotechnical Design North	
WORKING TITLE	POSITION NUMBER	EFFECTIVE DATE
Transportation Engineer Civil	559-323-3135-xxx	November 2011

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 as scheduled; 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 a Senior Materials and Research Engineer, the Transportation Engineer (Civil) provides technical expertise, support and recommendations on geotechnical topics as may evolve, commencing with the project planning phase and progressing through the design, construction, and operation phases of the State Transportation System. Periodic travel to the Districts and field sites for periods of several days is required.

TYPICAL DUTIES

Percentage	Job Description
Essential (E)/Marginal (M) 40% (E)	Conducts geotechnical studies including site exploration, Provide direction of laboratory testing and analysis, as well as preparation of reports presenting recommendations, designs, and specifications including consideration of facility constructability. These studies include and are not limited to the areas of expansive soils, mechanically stabilized walls and embankments, tieback retaining walls, geotechnical earthquake engineering including earthquake response, settlement and stability of embankments, stability of earth and rock slopes, soil nail walls, and design of structure foundations (shallow and deep). This position requires periodic travel to the Districts and field sites for periods of several days.
35% (E)	Develops designs and specifications to utilize various shallow and deep ground improvement techniques including prefabricated band drains, soil cement mixing, stone columns and various grouting techniques; geosynthetics as reinforcement elements; and additives such as lime, portland cement, and fly ash.

- 15% (E) Reviews for both technical content and conformity to Department policies and procedures, consultant-prepared and Department-prepared materials and geotechnical reports, plans, specifications, special provisions, and estimates for the geotechnical design and construction aspects of a variety of Department and special funded projects. Prepare and manage consultant contract task orders.
- 10% (M) Provides support to Division of Construction when problems arise with geotechnical aspects of the construction work.

SUPERVISION OR GUIDANCE EXERCISED OVER OTHERS

Supervision is not a requirement of this position but the incumbent may act as a leadworker over employees in the Transportation Engineer (Civil), Geologist, Transportation Engineering Technician, Materials and Research Engineering Associate, or Foundation Driller classifications.

KNOWLEDGE, ABILITIES AND ANALYTICAL REQUIREMENTS

Incumbent must have a thorough knowledge of soil mechanics principles; soil behavior under various stress paths and stress conditions; laboratory and field soil and rock testing methods and procedures; site exploration and sampling techniques and equipment; and geotechnical field instrumentation methods and practices. This knowledge is as normally acquired in graduate level course work in geotechnical engineering. Incumbent must have knowledge of earthwork and foundation construction methods, specifications, and quality control practices. Must have completed advanced course work directed specifically toward geotechnical engineering and soil mechanics. Must have the ability to acquire additional and new knowledge of geotechnical engineering through additional course work or self study. The ability to communicate effectively, both in written and oral form is required.

This position requires considerable analysis of engineering data involving geotechnical engineering related to specific site conditions. The incumbent must recognize potential geotechnical problems and reliably assess their probable effects on design study options and constructability, accurately determine the major factors leading to specific field problems, and ensure that viable geotechnical options are developed to effectively deal with the project.

The incumbent must have the ability to interact with individuals and groups from the Department, governmental agencies, and private consulting firms. Must have the ability to multitask, adapt to changes in priorities, and complete tasks with short notice. The incumbent must have the ability to effectively coordinate multiple assignments with concurrent due dates, and to recognize potential project-related problems with personnel, fiscal resources, or scheduling and either take or recommend corrective action. The incumbent must be able to manage and resolve conflicts and disagreements in a positive and constructive manner to minimize negative impact.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCE OF ERROR

The incumbent must have the ability to respond effectively and timely to all aspects of preparing and reviewing reports developed by Department personnel and private consultants. Delays in response to requests for services or failure to detect omissions and/or inadequacies in design recommendations could affect public safety, result in tort liability, and result in contract delays, construction difficulties and substandard performance of completed facilities.

PUBLIC AND INTERNAL CONTACTS

The incumbent will have frequent and regular contact with personnel in the Department concerning engineering matters related to in-house developed projects and projects developed by engineering consultants. The incumbent will also have regular communication with engineering consultants, contractors, manufacturers, vendors, local agencies, and other State personnel.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

The incumbent will be required to work on field and construction sites, transport heavy equipment and materials, work with exploratory equipment and collect field data. Landslide and undeveloped sites are often rugged and heavily vegetated. Construction site surfaces are often uneven, may have open excavations and may be located on steep slopes. Weather conditions can vary between icy, slippery and wet to hot and dry. The incumbent must have the ability to traverse these sites and withstand exposure to the aforementioned environments for long periods of time. While in the office, the incumbent may be required to sit for long periods of time using a keyboard and video display terminal.

The incumbent must grasp the essence of new information and master new technical and engineering knowledge; must have the ability to multi-task, adapt to changes in priorities, and complete tasks or project meeting strict deadlines with, at times, short notice.

The incumbent will be responsible to ensure that assigned tasks are carried out in a professional, safe, and exacting manner and in accordance with existing policy, specifications, rules, work plans and guidelines. The incumbent must possess the ability to develop and maintain cooperative working relationships and have a positive and friendly attitude and a willingness to learn. The incumbent behaves in a fair and ethical manner toward others and demonstrates a sense of responsibility and commitment to public service. The incumbent values cultural diversity and other individual differences in the workforce.

Incumbent must deal effectively with pressure, maintain focus and intensity yet remain optimistic and persistent, even under adversity. Must develop and maintain cooperative working relationships, and meet and deal tactfully with the public and other Departments. Incumbent must respond appropriately to difficult situations and resolve emotionally charged issues reasonably and diplomatically. Must behave in a fair and ethical manner toward others, and be tactful and treat others with respect.

WORK ENVIRONMENT

While at their base of operation, incumbent will work in a climate-controlled office setting under artificial lighting. When employee is required to travel and work outdoors, the incumbent may be exposed to dirt, noise, wet or dry conditions, extreme heat or cold, and the need to traverse rugged terrain. The incumbent also may be exposed to some of the most beautiful scenery that California has to offer.

I have read, understand and can perform the duties listed above. If you believe you may require accommodation, please discuss this with the hiring supervisor.

Employee Name (please print)

Employee Signature & Date

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

Supervisor Name (please print)

Supervisor Signature & Date