STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

POSITION DUTY STATEMENT

PM-0924 (REV 7/2014)

CLASSIFICATION TITLE	OFFICE/BRANCH/SECTION	
Transportation Surveyor	North Region Division of Engineering/Office of Surveys	
WORKING TITLE	POSITION NUMBER	EFFECTIVE DATE
Field Crew Surveyor	903-201-3029-xxx	

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 Transportation Surveyor Party Chief, incumbents perform a wide variety of professional land surveying work in a field setting. Incumbent serves as a member of a field survey crew and performs professional surveying work in Caltrans.

TYPICAL DUTIES:

Percentage	Essential (E)/Marginal (M)[1]	Job Description
45%	E	Assist in the reconnaissance, planning and execution of assigned survey fieldwork. Organize and use work tools and time in caring for equipment and materials and in following good work practices for vehicle and personal safety. Operate and maintain all precision survey instruments used by the survey crew, including the digital level, the Total Station instrument and its data collector, GPS receivers, and all associated cabling and batteries. Prepare the data collector for different operations and correctly enter the data coding in accordance with recognized Caltrans and Regional practices and procedures. Precisely set all observation targets and accurately report all height measurements. Determine the most appropriate terrain and topographic points to be surveyed on design data surveys. Properly operate a prism pole during observations on all types of surveys, including land net surveys, construction surveys, and utility surveys. Accurately communicate to the instrument man or data collector operator the description and character of each observed point and the height of the prism pole. Perform all calculations incidental to all construction staking, including slope staking, bank plugs, finish grade, string line, etc. Determine the most appropriate location for any construction reference stakes to be set, the most appropriate equipment to be utilized, and the acceptable methods and procedures to use. Accurately, legibly and neatly mark all stake cards or stakes (lath), and document all staking performed.
25%	E	Set or recover and tie survey control, land net or Right of Way (R/W) monuments in accordance with Caltrans and Regional practices and procedures. Provide complete, accurate, neat, and well-organized documentation using Caltrans and Regional note forms, Survey Monument control sketches, Survey Control and Land Net Schemes, Corner records, and Construction Staking diagrams.
15%	E	Operate the survey crew's field computer, using the programs supplied, to review and edit survey observation data. Incumbent will transfer needed survey data to and from the Total Station data collector (Survey Controller) and to and from data transfer medians or storage devices, PCMCIA cards, CD's, etc. Review and edit survey control data and coding, compute field closures and adjustments to determine acceptability, and analyze control problems. Review and edit terrain and topographic data and coding to assure accuracy and completeness and, in all cases, recommend corrective actions when needed.
10%	E	Set out traffic signs and perform traffic control and lookout duties in accordance with Chapter 2 of the Caltrans Surveys Manual and the Caltrans Safety Manual. Clear brush and tree limbs, as permitted and needed.

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5%	M	Assist in maintaining equipment and material inventory and determine equipment maintenance and replacement needs and any materials needed by survey crew.

[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.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Knowledge of Fundamental surveying, mathematics, and basic science as applied to surveying; methods of precise survey measuring; use and adjustment of precision surveying instruments; procedures, equipment, and materials used in surveying, including conventional and state of the art; mapping and drafting techniques; mathematics and procedures used in plane and geodetic surveying; computer applications and usage; the California Coordinate System; Code of Safe Surveying Practices; photogrammetric mapping procedures; principles and practices of boundary determination, land title research, and surveying; legal descriptions of real property; methods and terminology used in searching for land titles and factors involved in determining ownership of property; real property acquisition and mapping laws pertaining to public and private ownership of real property; monumentation of facilities; the Land Surveyors' Act; the Subdivision Map Act; factors which influence the impact of departmental projects on property and basic net; right of way engineering projects; planning, design, construction, and right of way procedures and policies as they relate to surveys.

Ability to perform complex field and office surveying work; make precise survey measurements; interpret legal descriptions of real property; make and interpret difficult survey calculations; apply and utilize the principles of the California Coordinate System; research, analyze, check, and adjust survey data; research and compile evidence and documentation for boundary determination; assist in planning, directing, and coordinating the work of a group of survey or right of way engineering personnel; do mapping and drafting; analyze situations accurately and take effective action; prepare clear and concise reports and correspondence; write property descriptions and prepare legal land documents and descriptions; operate precise surveying instruments (conventional and state of the art); establish and maintain friendly, business-like relations with those contacted in the course of the work; communicate effectively.

Ability to analyze situations accurately and adopt an effective course of action. Ability to make analytic judgments pertaining to all phases of land surveying. The incumbent must have a strong background in field surveys, computational skills, and boundary determination as a basis for these analytical judgments. Ability to assess the terrain at a survey location to determine the best way to perform the work efficiently, analyze the results of survey computations for accuracy and completeness, plan for his/her safety and that of the crew and the traveling public, review the collected field data for accuracy and completeness, and ensure that administrative documents are prepared completely and accurately.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

Responsible for the accuracy and completeness of the survey work that was subject to his/her decisions, direction or review. Errors and omissions in survey data could require costly returns to the jobsite for corrections and adversely affect project delivery. Errors in construction stakes could lead to costly changes.

PUBLIC AND INTERNAL CONTACTS

Contact with property owners at field locations, and responds to, or redirects to the Party Chief, requests for information from other departments, other governmental agencies and the public.
Contact with the traveling public during signing and traffic control operations on the highway.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

Must be able to collect survey data over rough, uneven and steep terrain. Must be able to transport survey equipment hand tools and materials in an outdoor setting through various types of terrain as needed to complete the necessary task. Must possess the ability to stand for prolonged periods of time. Requires frequent bending, stooping, and kneeling. Ability to exercise power grasping, repetitive motion and manual dexterity when using hand tools and survey equipment. Must be able to take direction constructively, work cooperatively as a team member and act with courtesy to coworkers and the public. Must have the ability to multi-tasked, adapt to changes in priorities, and complete tasks or projects with short notice. Must be able to maintain a sustained mental alertness and concentration for prolonged periods of time while

performing tasks assigned. Must be able to effectively communicate ideas, issues and possible solutions as they relate to a particular task or project.

WORK ENVIRONMENT

The work assigned is usually along the traveled way of highways, often in remote areas, and in heavy construction zones. Work often must be performed in adverse weather conditions, including high heat and freezing cold. This position requires the use of heavy-duty work clothes and safety boots. Manual labor can be expected to be intense. Position requires using cutting tools to clear brush, which can be dense and could include poison oak. Survey locations are often set in tick infested terrain. Incumbent can expect to drive survey stakes and markers with sledgehammers for extended periods. Extensive walking, often over steep and uneven terrain, while transporting stakes, supplies, and equipment is necessary. The incumbent can expect to work under very noisy conditions and is required to be tolerant of working within close range of high-speed traffic and heavy equipment.

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