

POSITION DUTY STATEMENT

PM-0924 (REV 12/2020)

CLASSIFICATION TITLE Transportation Surveyor	OFFICE/BRANCH/SECTION North Region Project Development- Office of Surveys	
WORKING TITLE Field Crew Surveyor	POSITION NUMBER 927-201-3029-XXX	EFFECTIVE DATE

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. Possession of a valid California Drivers License is required when operating a state owned or leased vehicle.

CORE COMPETENCIES:

As a Transportation Surveyor, the incumbent is expected to become proficient in the following competencies as described below in order to successfully perform the essential functions of the job, while adhering to and promoting the Department's Mission, Vision, Values, and Goals. Effective development of the identified Core Competencies fosters the advancement of the following Leadership Competencies: Change Commitment, Risk Appetite, Self-Development/Growth, Conflict Management, Relationship Building, Organizational Awareness, Communication, Strategic Perspective, and Results Driven.

- **Flexibility and Managing Uncertainty** : Adjusts thinking and behavior in order to adapt to changes in the job and work environment. (Safety and Health, Stewardship and Efficiency, System Performance, Organizational Excellence - Integrity, Teamwork, Innovation)
- **Decision Making**: Makes critical and timely decisions. Takes charge. Supports appropriate risk. Makes challenging and appropriate decisions. (Safety and Health, Stewardship and Efficiency, System Performance, Organizational Excellence - Integrity, Teamwork, Innovation)
- **Initiative**: Ability to identify what needs to be done and doing it before being asked or required by the situation. Seeks out others involved in a situation to learn their perspectives. (Safety and Health, Organizational Excellence - Commitment, Teamwork, Innovation)
- **Problem-solving and Decision-making** : Identifies problems and uses logical analysis to find information, understand causes, and evaluate and select or recommend best possible courses of action. (Organizational Excellence - Integrity, Teamwork, Innovation)
- **Teamwork and Collaboration**: Sets team structure. Organizes, leads, and facilitates team activities. Promotes team cooperation and encourages participation. Capable of cross functionality and working well with others on a team to achieve personal goals, team goals, and organizational goals. Takes responsibility for individual actions in order to achieve consistent results. (Safety and Health - Integrity, Commitment, Teamwork)
- **Customer Focus**: Considers, prioritizes, and takes action on the needs of both internal and external customers. (Safety and Health, System Performance, Organizational Excellence - Commitment, Teamwork)
- **Communication**: Expresses oneself clearly in all forms of communication. Gives feedback and is receptive to feedback received. Knows that listening is essential. Keeps others in the Division and other functional units informed as appropriate. (Safety and Health, System Performance, Organizational Excellence - Teamwork)
- **Planning and Results Oriented**: Organizes and executes work to meet organizational goals and objectives while meeting quality standards, following organizational processes, and demonstrating continuous commitment. (System Performance, Organizational Excellence - Integrity, Commitment, Teamwork, Innovation)
- **Technical Expertise**: Depth of knowledge and skill in a technical area. (System Performance, Organizational Excellence - Integrity, Commitment, Teamwork, Innovation)

TYPICAL DUTIES:

Percentage	Job Description
Essential (E)/Marginal (M) ¹	

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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, 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, structural staking, 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 sketches, 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 data collector and to and from data transfer medias 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. Operate a drone for surveying or emergency work, if licensed to do so by the FAA.
5%	M	Assist in maintaining equipment and material inventory and determine equipment maintenance and replacement needs and any materials needed by survey crew.

¹ESSENTIAL 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

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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-task, 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. 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-task, 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.

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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

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