

POSITION DUTY STATEMENT

PM-0924 (REV 01/2022)

CLASSIFICATION TITLE Transportation Surveyor	OFFICE/BRANCH/SECTION District 12 / Office of Construction Administration	
WORKING TITLE Transportation Surveyor	POSITION NUMBER 912-501-3029-017	REVISION DATE 07/15/2024

As a valued member of the Caltrans leadership team, you make it possible for the Department to provide a safe and reliable transportation network that serves all people and respects the environment.

GENERAL STATEMENT:

Under the direction of a Transportation Surveyor Party Chief or Senior Transportation Surveyor, 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 at Caltrans. This is the entry, first working, or journey level of professional surveying fieldwork at Caltrans.

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, Strategic Imperatives 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.

- **Learning on the Fly:** Learns quickly, is open to change, experiments, and is flexible. (Cultivate Excellence - Integrity)
- **Decision Making:** Makes critical and timely decisions. Takes charge. Supports appropriate risk. Makes challenging and appropriate decisions. (Safety First - Pride)
- **Reliability:** Ability to demonstrate dependability in meeting commitments, and providing a consistent work product. Takes responsibility for individual actions in order to meet deadline demands. (Lead Climate Action - Integrity)
- **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. (Advance Equity and Livability in all Communities - Equity)
- **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 First - Engagement)
- **Customer Focus:** Considers, prioritizes, and takes action on the needs of both internal and external customers. (Cultivate Excellence - Pride)
- **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. (Strengthen Stewardship and Drive Efficiency - Equity)
- **Forward Thinking:** Anticipates the implications and consequences of situations and takes appropriate actions to be prepared for possible contingencies. Anticipates and prepares for future developments. (Enhance and Connect the Multimodal Transportation Network - Integrity)
- **Technical Expertise:** Depth of knowledge and skill in a technical area. (Safety First - Pride)

TYPICAL DUTIES:

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

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POSITION DUTY STATEMENT

PM-0924 (REV 01/2022)

45%	E	Assists the Party Chief in a wide variety of professional land surveying tasks in the field, inclusive of: horizontal/vertical control surveys; design data surveys; photogrammetric mapping; monumentation; and construction surveys. Makes survey judgments and decisions as experience justifies. Assists in the reconnaissance, planning, and execution of assigned field work. Organizes and uses work tools and time in caring for equipment and materials and follows good work practices for vehicle and personal safety. 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 up to 60 pounds. Makes surveying computations using programmable calculators and computer systems. Operates and maintains all precision survey instruments used by the survey crew, including digital levels, a Total Station instrument and it's data collector, Global Positioning System (GPS) receivers, and all associated cabling and batteries. Prepares the data collector for different operations and correctly and accurately enters the data coding in accordance with recognized Caltrans and District practices and procedures. Precisely sets all observation targets and accurately reports all height measurements. Determines the most appropriate terrain and topographic points to be surveyed on design data surveys. Properly operates a prism pole during observations on all types of surveys, including land net surveys, construction surveys, and utility surveys. Accurately communicates to the instrument or data collector operator the description and character of each observed point and the height of the prism pole. Performs all calculations incidental to all construction staking, including slope staking, finish grade, and string line. Determines 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 marks all stake cards or stakes and documents all staking performed.
25%	E	Sets, recovers, and locates survey control, land net, or Right of Way (R/W) monuments in accordance with Caltrans and District practices and procedures. Prepares and provides complete, accurate, neat, and well organized documentation using Caltrans and District note forms, Survey Monument control sketches, Survey Control and Land Net Schemes, Corner records, and Construction Staking diagrams.
20%	E	Operates the survey crew's field computer and uses supplied programs to review and edit survey observation data. Transfers needed survey data to and from the Total Station data. Reviews and edits survey control data and coding, computes field closures and adjustments to determine acceptability, and analyzes control problems. Reviews and edits terrain and topographic data and coding to ensure accuracy and completeness and, in all cases, recommends corrective action when needed.
10%	M	Reports daily pre-operational condition, necessary repairs, sustained damage and ensures the completion of required maintenance on fleet vehicles used. Assists the Transportation Surveyor Party Chief with preparation of daily assignments, including stocking material onto vehicles, as required, to accomplish tasks. Immediately reports any personal injury acquired during the course of work to the supervisor. Accurately reports worked time and charges in the Time Reporting System provided. Assists in preparing safety meetings every ten days, or more often as site conditions change. Adheres to and assists other survey crew members in following procedures in conformance with the Surveys and Safety Manuals. Sets out traffic signs and performs traffic control and lookout duties in accordance with Chapter 2 of the Caltrans Surveys Manual and Caltrans Safety Manual. Participates in the safety program as needed.

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

As experience progresses, may act as a lead worker of a small group due to department operational needs, or supervisor's absence.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

A Transportation Surveyor must have good working knowledge of the fundamentals of land surveying. The following are knowledge, abilities, and analytical requirements necessary for this position:

- Have knowledge of mathematics and basic science as it applies to procedures used in plane and geodetic surveying.
- Understand conventional and state of the art mapping and drafting techniques.
- Familiar with and apply the Land Surveyor's Act and California Subdivision Map Act and any other real property acquisition and mapping laws pertaining to public and private ownership of real property.
- Understand methods used in the practice of precise surveying as described in the Caltrans Surveys Manual.
- Make precise survey measurements, utilize the principles of the California Coordinate System.
- Proficient with Department computer applications used in preparation of electronic maps and roadway design software.
- Understand and practice current safety procedures as described in the Code of Safe Surveying Practices and the Caltrans

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POSITION DUTY STATEMENT

PM-0924 (REV 01/2022)

Illness and Injury Prevention Program.

- Assist with the research, verification, and adjustment of field survey data, and if directed, may include making and interpreting less difficult survey calculations.
- Apply and utilize basic principles of trigonometry as used in simple plane and geodetic surveying and within the CA Coordinate system
- Knowledge of Fundamental surveying, mathematics, and basic science as applied to surveying.
- Knowledge of methods of precise surveying 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.
- 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.
- Code of Safe Surveying Practices.
- Ability to assess the terrain at a survey location to determine the best way to perform the work efficiently, analyze the results of the survey.
- Ability to review the collected field data for accuracy and completeness ensuring that administrative documents are prepared completely.
- Ability to apply photogrammetric mapping procedures; principles and practices of topographic mapping and GPS mapping procedures.
- Must possess and maintain a valid California Class C Driver's License.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

The incumbent is responsible for their decisions, actions, and the consequence of error. The incumbent will be responsible for performing work in an accurate and timely manner by prioritizing tasks and exercising good judgment. The employee is expected to exercise a wide degree of initiative in performing their duties. Errors, lack of knowledge, or failure to recognize and communicate critical issues could result in missed deadlines, loss of programmed funds, and project delivery failure. Responsible for the accuracy and completeness of the survey work that was subject to their decisions, direction or review. Employee is responsible for their actions, decisions, quality of work and proper use of state time, equipment and material. Consequences of failure in this responsibility can result in the failure to meet financial obligations, which can have a detrimental impact on project delivery.

PUBLIC AND INTERNAL CONTACTS

Internal contacts may be made throughout the Department at all levels and with all Divisions. External contacts may include those with other state agencies, local agencies, federal agencies, private surveyors, private citizens and consultant contractors. These contacts may be verbal or written.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS**PHYSICAL**

The incumbent's normal assignments are within District 12, Orange County but can on occasion include temporary assignments statewide. Since the Land Surveying department delivers many different products of information, changes in work assignments are frequent and unpredictable. Since the Physical Environment is directly linked to work assignments, any or all of the following conditions may be met:

- Frequent, substantial or unexpected workload changes which can dictate rescheduling or reassigning of work as needed;
- Must travel to near or remote work assignments for various lengths of time as projects dictate. Out of town assignments may be necessary; out of town assignments are described as locations outside a 50-mile radius from the District office;
- Must be able to collect survey data over rough, uneven, arid and steep terrain.
- Must be able to transport survey equipment, hand tools and materials in an outdoor setting through various types of terrain and within various weather conditions as needed to complete the necessary task;
- Required to work in field conditions within Southern California, work environment can and will be hot, cold, wet, dry, dusty or clear, working in and around operating roadways and heavy equipment results in a loud and sometimes uncomfortable working environment.
- Must possess the ability to stand for prolonged periods of time and requires frequent bending, stooping, kneeling and grasping.
- Ability to exercise power grasping, repetitive motion and manual dexterity when using hand tools and survey equipment such as hammers, sledge hammers, digging bars, and shovels to perform routine tasks;
- Use of a pick, digging bar, or a shovel to excavate material in order to set or recover survey monuments.
- Requires operating a motor vehicle while traveling to, from and during work assignments.
- Overtime may be required and vacations may be restricted as departmental workload dictates.

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EMOTIONAL

- The position requires constant interaction with field survey personnel, office personnel, and the supervisor. It is important that employees work with others to develop and maintain cooperative relationships. Must be able to take direction constructively, work cooperatively as a team member and act with courtesy to coworkers and the public.
- Ability to establish and maintain friendly, business-like relations with those contacted in the course of the work.
- Must be able to handle irate public in a calm manner.
- Must deal effectively with pressure, maintain focus and intensity yet remain optimistic and persistent, even while working under adverse conditions.
- Must be open to change; adapts behavior and work methods when presented with new ideas, changing conditions or unexpected obstacles.
- Must behave in a fair and ethical manner toward others and demonstrates a sense of responsibility and commitment to public service.
- Must value cultural diversity and other individual differences in the workforce.
- 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 level head in difficult and dangerous situations.

MENTAL

- Must have the ability to be 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 to them relating to various projects.
- Must be able to effectively communicate ideas, issues, and 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 within the Southern California region, including high heat and freezing cold, very dry and wet conditions. 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

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