

POSITION DUTY STATEMENT

DOT PM-0924 (REV 01/2025)

CLASSIFICATION TITLE	OFFICE/BRANCH/SECTION	
Assistant Telecommunications Eng	56/Maintenance/Radio Communications	
WORKING TITLE	POSITION NUMBER	REVISION DATE
Telecommunications Engineer - Special Projects	913-640-3643-918	

As a valued member of the Caltrans team, you make it possible to improve lives and communities through transportation.

GENERAL STATEMENT:

Under the direction of the Senior Telecommunications Engineer, Special Projects Branch, the incumbent serves in a training and developmental capacity. The incumbent assists engineering staff with tasks related to the Department's Satellite Program (CT SATCOM), Caltrans Auxiliary Radio System (CARS), and Highway Advisory Radio (HAR) program. The role supports both day-to-day and emergency communications services for Caltrans Headquarters and the Sacramento Region while developing the skills needed to support statewide responsibilities.

The incumbent will receive training in project planning, basic design contributions, FCC licensing support, equipment installation oversight, and communications system operations. Increasing emphasis is placed on modern communications technologies, and therefore candidates with strong networking and IT backgrounds are strongly preferred, including familiarity with IP networks, fiber systems, and IT-based communications infrastructure. Statewide travel may be required for supervised fieldwork, emergency deployments, and site assessments. A valid Class C driver's license is required. Work location of this position will be located at the Caltrans Headquarters office in Sacramento. Work location of this position will be located at the Caltrans Headquarters office in Sacramento in a climate controlled, cubicle-type space, under artificial light. The incumbent may also have the option to work from their home (telecommute) at the discretion of the Department.

CORE COMPETENCIES:

As an Assistant Telecommunications Eng, 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.

- **Creativity and Innovation:** Thinks beyond the confines of traditional models to recognize opportunities, seek creative solutions and take intelligent risks. (Safety, Employee Excellence - Collaboration, Equity, Innovation, Integrity, Pride)
- **Decision Making:** Makes critical and timely decisions. Takes charge. Supports appropriate risk. Makes challenging and appropriate decisions. (Safety, Employee Excellence - Collaboration, Equity, Innovation, Integrity, Pride)
- **Ethics and Integrity:** Demonstrated concern to be perceived as responsible, reliable, and trustworthy. Respects the confidentiality of information or concern shared by others. Honest and forthright. Conforms to accepted standards of conduct. (Safety, Employee Excellence - Collaboration, Equity, Innovation, Integrity, Pride)
- **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. (Safety, Employee Excellence - Collaboration, Equity, Innovation, Integrity, Pride)
- **Teamwork/Partnership:** Develops, maintains, and strengthens partnerships with others inside or outside of the organization through effective communication and collaboration. (Safety, Employee Excellence - Collaboration, Equity, Innovation, Integrity, Pride)
- **Organizational Awareness:** Contributes to the organization by understanding and aligning actions with the organization's strategic plan, including the mission, vision, goals, core functions, and values. (Safety, Employee Excellence - Collaboration, Equity, Innovation, Integrity, Pride)
- **Interpersonal Effectiveness :** Effectively and appropriately interacts and communicates with others to build positive, constructive, professional relationships. Tailors communication style based on the audience. Provides and is receptive to feedback. (Safety, Employee Excellence - Collaboration, Equity, Innovation, Integrity, Pride)
- **Analytical Skills:** Approaches problems using a logical, systematic, and sequential approach. Weighs priorities and recognizes underlying issues. (Safety, Employee Excellence - Collaboration, Equity, Innovation, Integrity, Pride)
- **Organizational Skills:** Keeps work prioritized and organized. Logically approaches situations. (Safety, Employee Excellence - Collaboration, Equity, Innovation, Integrity, Pride)

TYPICAL DUTIES:

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

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DOT PM-0924 (REV 01/2025)

35%	E	System Enhancements, Maintenance, Field Support, and Facilities Designs Assist Associate Telecommunications Engineers with design review, system maintenance, and engineering activities for CT SATCOM, HAR, and CARS systems. The incumbent will assist with supporting routine system checks, helping diagnose hardware, software, and IP-based connectivity issues, and participating in equipment installations under supervision. The incumbent will learn to read engineering plans, wiring diagrams, and fiber/copper layouts. Field support includes assisting during emergency deployments, staging equipment, and confirming readiness of communication assets. Training will be provided in IP-integrated communications, satellite terminal setup, network device configuration, RF fundamentals, and interoperability. Provide support in coordination with PSC, Cal OES, District Radio Coordinators, and Headquarters staff.
15%	E	Contract Services and Contract Oversight Assist Associate Telecommunications Engineers in gathering technical documentation, processing permits, supporting lease documentation, and preparing service request materials. Learn to develop basic technical specifications for telecommunications and IT-related systems. The incumbent will assist in monitoring contractor progress on installations, cutovers, fiber work, and network upgrades. Support budget tracking, invoice verification, and documentation of project expenditures. Under guidance, review basic vendor proposals and technical submittals for compliance.
15%	E	Broadband Middle Mile Network (BMMN) Support Assist Associate Telecommunications Engineers with tracking BMMN progress statewide, mapping fiber routes, and reviewing design interfaces with Maintenance facilities. Support evaluations of system integration, redundancy, and bandwidth needs. Provide basic field observations on fiber handholes, equipment rooms, and rack layouts. Help document network diagrams, IP addressing, and fiber assignments. Participate in meetings to learn fiber transport and redundancy concepts. A strong networking and IT background is highly beneficial.
10%	E	Field Quality Assurance and Engineering Support Accompany Associate Telecommunications Engineers on communication site visits and inspections. The incumbent will assist in visual checks of cabling, antennas, grounding, equipment labeling, and environmental controls. Learn to validate installation work against drawings and safety standards. Support basic troubleshooting of radio and IP network issues using entry-level test tools. Assist in documenting field conditions and updating engineering records.
10%	E	Inventory Database Management Assist Associate Telecommunications Engineers in maintaining the FileMaker Pro database tracking telecommunications and IT assets. Duties include data entry, updating equipment locations, tagging property, and generating simple reports. Learn to track both radio communications and IT/network equipment such as switches, routers, access points, and fiber modules. Coordinate with IT and ORC staff to help resolve basic database issues.
10%	E	Equipment Inventory and Purchases Assist Associate Telecommunications Engineers in organizing equipment needs, preparing procurement requests, and tracking shipments. Support tagging, serial-number documentation, and updating inventory records. Help evaluate basic technical requirements for communications and IT equipment including switches, routers, SFPs, cabling, antennas, and satellite components. Assist with preparing purchase justifications and vendor comparisons.
5%	M	Technical Assistance and Communications Support Assist Associate Telecommunications Engineers by responding to entry-level technical inquiries related to radio, satellite, and IT-integrated systems. Help gather documentation, procedures, and system reference materials. Support coordination with IT Branch on policies and cybersecurity requirements. Help track FCC licensing updates and regulatory information. Provide general technical and administrative assistance 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.

POSITION DUTY STATEMENT

DOT PM-0924 (REV 01/2025)

SUPERVISION OR GUIDANCE EXERCISED OVER OTHERS

The position does not supervise but may be assigned to act as a lead person over maintenance personnel and/or provide functional direction to District Radio Coordinators, other engineers, and maintenance personnel.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

The incumbent must have thorough knowledge of engineering practices and principles, telecommunications systems and the California State Communications Law and the Federal Communications Commission rules and regulations. Incumbent must continually update his/her knowledge of emerging technologies, new regulations, and industry standards.

The incumbent must be knowledgeable of electronics theory, engineering mathematics, radio frequency allocations, electromagnetic wave propagation, radio field strength measurements, and traffic handling procedures.

Must be able to apply their knowledge to the design, construction, and the maintenance of radio communications system that will achieve the district's goals and objectives.

The incumbent must be familiar with the processes and procedures required to implement a large-scale radio communications systems with diverse and varied terrain and conditions.

Incumbent should have good writing skills and be familiar with the principal elements of contracts and leases. The incumbent must have the ability to develop and maintain cooperative relations with all staff at all levels.

The incumbent must practice safe working procedures in the presence of various hazards including High Radio Frequency Emissions and EMI Electrical Energy, traffic construction, and adverse environment.

Travel in a State vehicle will be required. A valid California driver's license is required to operate any state vehicle. Some driving conditions may include, but are not limited to, rough, steep, narrow, rocky, sandy remote 4x4 roads.

The Assistant Telecommunications Engineer (ATE) is expected to conduct business in a professional manner. The ATE will follow the guidelines as specified in the Letter of Expectations distributed to all ORC personnel.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

The ATE is responsible for the reliability and accuracy of all actions, decisions, and recommendations in his/her capacity. Proper use of equipment, correct methods analysis, and complying with all deadlines are the responsibility of the ATE.

The incumbent is responsible for assisting, as directed by their supervisor, in providing efficient and economical telecommunications systems to support the Districts' Transportation programs. These systems are complex in design yet are required to be flexible to meet the changing needs as program emphasis changes. The incumbent assists with changes and additions in the numerous telecommunication systems and makes decisions affecting the installation or modification of equipment or systems. The incumbent must consider long-range forecasts because of the excessive lead-time required for acquisition and installation of equipment.

Inappropriate decisions or errors of judgment may lead to the loss of time and the ability to solve critical problems which will adversely affect opportunities to increase transportation efficiency and safety.

PUBLIC AND INTERNAL CONTACTS

Contacts with the district management will be on a day-to-day basis. Frequent contacts will be made with the Office of Emergency Services, Public Safety Communications, and other State Public agencies that may be users of the radio system, and communications carriers. Periodic contact with private industry or other governmental agencies is also required.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

The incumbent must be physically, mentally, and emotionally able to work in various field environments including in and around traffic, in communication vaults which may be dusty and confined, at elevated levels, in and around water, climbing up and down steep slopes and ladders, carrying radio and test equipment, and working in and around all types of Caltrans vehicles. Good hearing and vision are essential in and around traffic areas. Must be able to develop and maintain a cooperative work environment through good interpersonal and communication skills.

WORK ENVIRONMENT

Approximately 60 percent of the incumbent's time will be spent in a typical office environment managing day-to-day operations.

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DOT PM-0924 (REV 01/2025)

The environment consists of prolonged sitting, artificial lightning, computer work, and light to moderate lifting of documents and radio equipment. Work location of this position will be located at the Caltrans Headquarters office in Sacramento in a climate controlled, cubicle-type space, under artificial light. The incumbent may also have the option to work from their home (telecommute) at the discretion of the Department. Some statewide travel may be required.

Approximately 40 percent of the incumbent's time will be spent in the field with district personnel, contractors, and other federal, state and county personnel performing investigations of existing and proposed State owned communications equipment and facilities. There is potential for travel under short notice during emergencies and/or unplanned events and travel off-road to mountain-top locations. The work environment includes hazards such as traffic, working in and around high Radio Frequency (RF) fields and Electromagnetic (EMI) environments, radio communications towers and in mountaintop communication site locations. The incumbent will be required to work outdoors throughout all seasons of the year under extreme temperature variations, around insects, vegetation, and rough terrain.

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.)

I agree that by providing my electronic signature for this form, I agree to conduct business transactions by electronic means and that my electronic signature is the legal binding equivalent to my handwritten signature. I hereby agree that my electronic signature represents my execution or authentication of this form, and my intent to be bound by it.

EMPLOYEE (Print)

EMPLOYEE (Signature)	DATE
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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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