

State of California  
 DEPARTMENT OF TRANSPORTATION

California State Transportation Agency


**M e m o r a n d u m**

*Serious drought.  
 Help save water!*

To: DISTRICT DIRECTORS  
 DEPUTY DISTRICT DIRECTORS

Date: December 28, 2016

File: 600-Tower Crane

  
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Subject: **TOWER CRANES ENCROACHING OVER STATE HIGHWAY RIGHT-OF-WAY**

This memorandum informs the districts that effective immediately, encroachment permits can be issued authorizing tower cranes that are erected outside but adjacent to the state highway right-of-way, to operate and weathervane over the state right-of-way upon compliance with all the requirements listed below. For encroachments involving interstates, the Office of Project Support, Division of Design will facilitate the Federal Highway Administration’s (FHWA) review and consideration for approval. Processes similar to exception requests outlined in Chapter 300 of the Encroachment Permits Manual shall be followed to facilitate the FHWA’s review and approval. Encroachment permit requests that do not comply with all the requirements below are to be denied without prejudice.

This Caltrans policy is in response to the increasing number of requests to operate and weathervane tower cranes over state right-of-way. The requirements are the result of discussions among Headquarters and district functional units, as well as external agencies, to ensure statewide consistency. The Applicant must provide the following prior to encroachment permit issuance:

1. Justification—Documentation demonstrating that there are no other feasible alternatives for the tower crane placement that will prevent encroaching onto state right-of-way.
2. Plans (see Attachments 1 and 2)—Applicant’s plans must show the crane’s location conforms with the following items based on the type of state right-of-way.

Item	Access controlled highway (interstate, freeway, expressway)	Non-access controlled highway (conventional)
Can a counter jib encroach over state right-of-way?	No	No
Can a crane be within state right-of-way during erecting or dismantling?	No	No
Can a load encroach over state right-of-way?	No	Yes, but only when area is closed to the public

**TOWER CRANES ENCREACHING OVER STATE HIGHWAY  
RIGHT-OF-WAY (INTERDIVISIONAL MEMO) (Cont.)**

EXHIBIT  
15-EX-10 (NEW 1/2021)  
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Can a jib encroach over state right-of-way?	Yes, but not over the roadbed*. FHWA approval needed for interstate.	Yes
Minimum jib height over state right-of-way	100 feet	100 feet

\*Refer to the Highway Design Manual for the definition of Roadbed.

3. Transportation Management Plan (TMP)—A TMP must be prepared, including possible detours and sufficient warnings, for all modes of transportation when a crane is operating over the roadway with loads.
4. Insurance—A policy is required naming the state as an additional insured with general liability and umbrella insurance totaling \$25 million, with \$5 million of primary coverage for general liability (see Attachment 3).
5. Right of Way Use Agreement—An executed lease agreement is required between the applicant/developer and Caltrans for use of airspace and/or property.

Unlike most encroachment permits involving a lease agreement, the District Encroachment Permits (EP) Office will be the lead for review and approval of tower crane encroachment permit requests. The EP Office will circulate the application package to functional units including Right of Way. The district Right of Way units understand the maximum 60-day time constraints of issuing an encroachment permit, and are responsible for preparing, coordinating, and expeditiously executing a Right of Way Use Agreement. The Right of Way Program has developed a means to charge for the temporary incursions into the state's right-of-way utilizing a Fair Market lease rate. The Right of Way Use Agreement will create a temporary Airspace parcel in the state right-of-way and in certain instances may require California Transportation Commission approval. The Right of Way Use Agreement and the Encroachment Permit process occur simultaneously.

The decision to allow tower cranes included discussions of safety and private use of state right-of-way. The California Department of Industrial Relations, Division of Occupational Safety and Health, better known as Cal/OSHA, permits and inspects all tower cranes prior to erection, during operation, and dismantling. Cal/OSHA implemented the nation's most stringent tower crane operating requirements after a crane failure in San Francisco in 1989. Other than a crane collapse during the Sylmar earthquake, no tower crane failures have occurred in California since 1989. A crane cannot legally operate without approval from Cal/OSHA. On January 11, 2012, representatives from Cal/OSHA met with Caltrans Division Chiefs affected by this proposed policy and explained the rigorous reviews they provide before a tower crane can be erected or operated, and verified the exemplary safety record of tower cranes operating in California. The Division of Traffic Operations held a telephone conference with Cal/OSHA management and staff on March 9, 2016, and Cal/OSHA is confident that items or crane parts cannot drop from tower cranes. Safety aspects of tower crane use in state right-of-way are addressed by meeting the Cal/OSHA requirements.

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When not in operation, most tower crane jibs are required to rotate freely, or weathervane, as wind speed and direction change. Weathervaning minimizes wind loading on the jib and minimizes the potential of the crane toppling over in high winds. When weathervaning, the crane is not in operation or carrying any loads. Also, urban areas present increasingly tight construction parameters. When a tower crane is located such that it would weathervane over state right-of-way, it may also be in a position where it is necessary to lift loads within the construction project limits and outside of state right-of-way, (or sometimes within state right-of-way in the case of conventional highways) but with the jib extended over state right-of-way.

Entering into a Right of Way Use Agreement complies with the California Constitution Article XVI, section 6 addressing the private use of state right-of-way. It also complies with the FHWA's policies relating to management of airspace on interstates for non-highway purposes, which are included in title 23 Code of Federal Regulations sections 710.403 and 710.405.

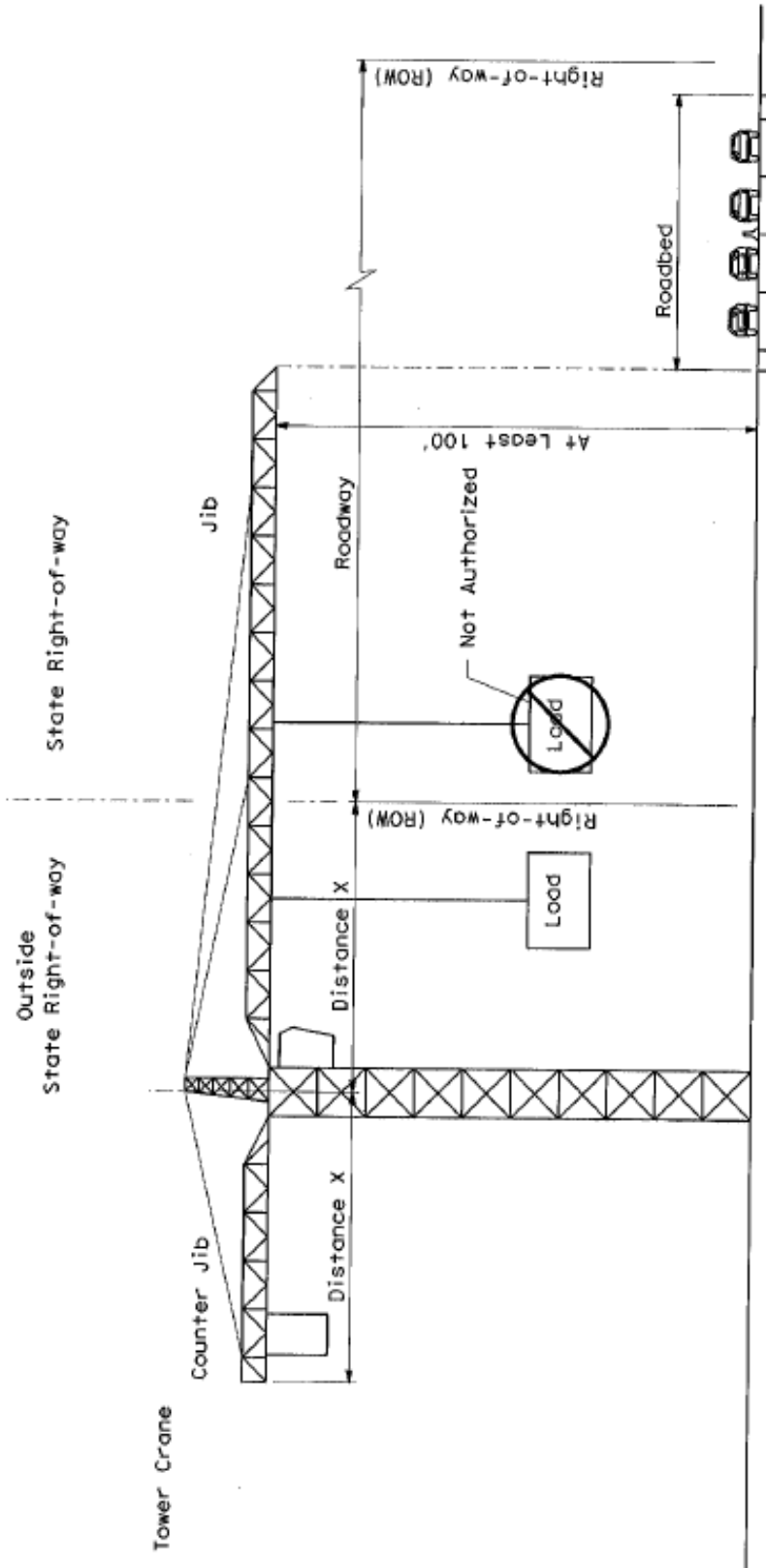
For questions regarding this memorandum or the attachments, please contact Yin-Ping Li, Chief, Office of Encroachment Permits and Engineering Support, Division of Traffic Operations at (916) 654-5548, or by e-mail at Yin-Ping.Li@dot.ca.gov; or Carol Hanson, Chief, Office of Real Property Services, Division of Right of Way at (916) 654-3536, or by e-mail at Carol.Hanson@dot.ca.gov; or Linda Fong, Chief, Office of Project Support, Division of Design at (916) 653-8559, or by e-mail at Linda.Fong@dot.ca.gov.

**Attachments:**

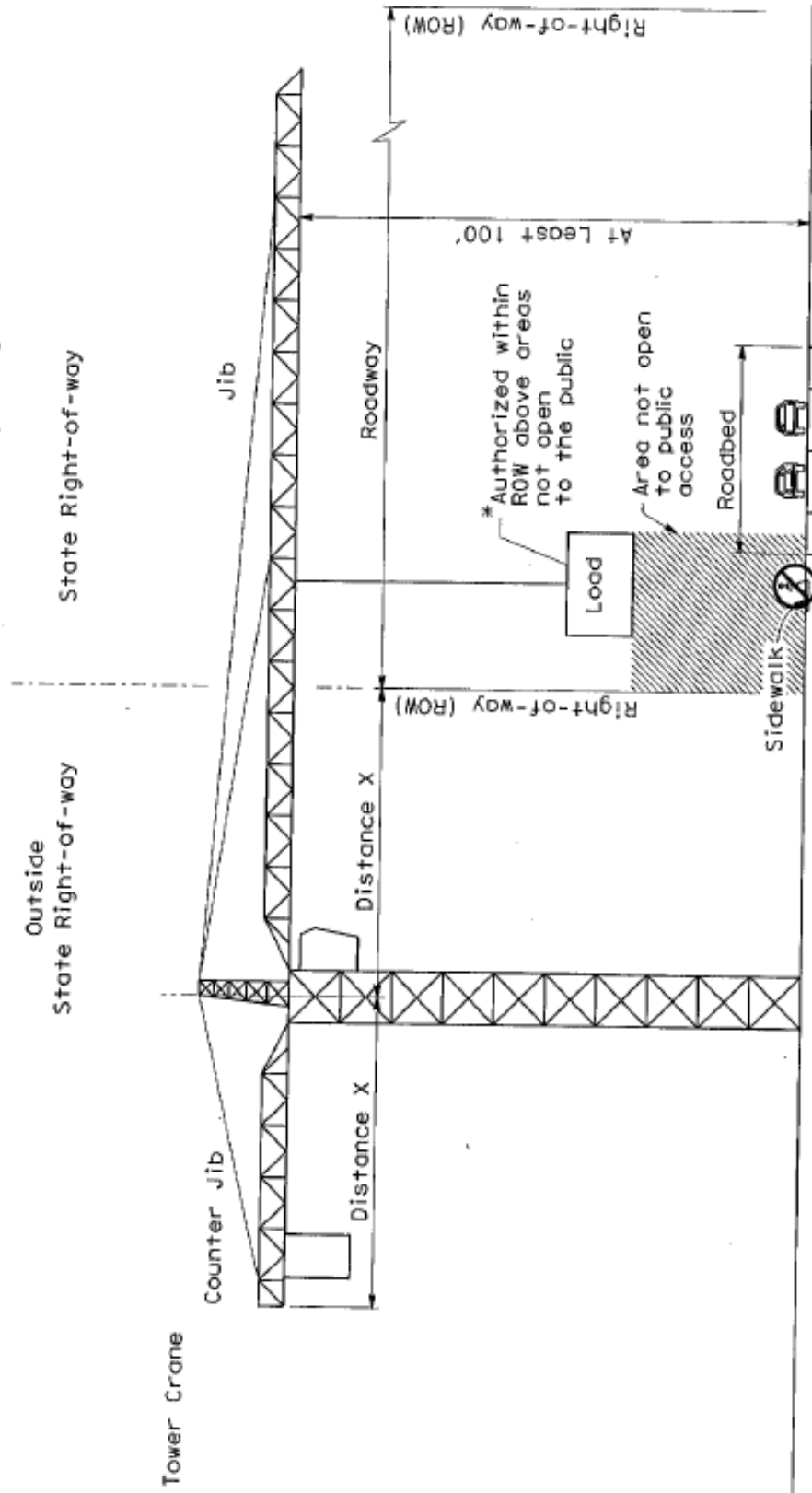
1. Access Controlled State Highway
  2. Non-Access Controlled State Highway
  3. Insurance Requirements for Tower Cranes
- c: Malcolm Dougherty, Director  
Kome Ajise, Chief Deputy Director  
Karla Sutliff, Deputy Director, Project Delivery  
Steve Takigawa, Deputy Director, Maintenance and Operations  
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Carol L. Hanson, Acting Chief, Office of Real Property Services, Division of Right of Way and Land Surveys  
Linda Fong, Chief, Office of Project Support, Division of Design  
Yin-Ping Li, Chief, Office of Encroachment Permits and Engineering Support, Division of Traffic Operations  
District Encroachment Permit Engineers

Attachment 1  
Tower Crane Memorandum  
December 2016

**Tower Crane Cross Section  
Access Controlled State Highway**



Attachment 2  
Tower Crane Memorandum  
December 2016  
**Tower Crane Cross Section  
Non-Access Controlled State Highway**



\* Appropriate measures must be taken to provide detours and sufficient warnings for all modes of transportation.

Attachment 3

State of California  
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency  
December, 2016

**INSURANCE REQUIREMENTS FOR TOWER CRANES**

The Legal Division recommends the following language be included in the encroachment permit for authorizing tower cranes:

1. The Permittee shall carry General Liability and Umbrella or Excess Liability Insurance totaling \$25 million, with at least \$5 million covered by a General Liability policy, covering all operations by or on behalf of the Permittee and providing primary insurance for bodily injury liability and property damage liability and including coverage for:
  - a. Premises, operations and mobile equipment
  - b. Products and completed operations
  - c. Broad form property damage (including completed operations)
  - d. Explosion, collapse, and underground hazards
  - e. Personal injury
  - f. Contractual liability
2. Caltrans, including its officers, directors, agents, and employees, must be named as additional insured under the General Liability and Umbrella Liability Policies with respect to liability arising out of or connected with work or operations performed by or on behalf of you under this Permit.
3. Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A-VI.
4. If the insurance expires, the Permittee shall immediately provide a new current certificate or be declared in breach of the Permit. If the Permittee fails to do so, Permittee agrees Caltrans can prevent Permittee from conducting any further operations until a new certificate has been provided to Caltrans.
5. Renewal insurance certificates must be tendered to Caltrans prior to or exactly at the expiration of the previous insurance certificate. There shall be no gap in insurance coverage. This renewed insurance shall be in accordance with the terms of the Permit.
6. Insurance policies shall contain a provision that coverage will not be cancelled without 30 days prior written notice to Caltrans.
7. Insurance Coverage shall be at least as broad as:
  - a. Insurance Services Office Commercial General Liability coverage (occurrence Form CG 0001). The insurance Certificate shall show the GL form number.
  - b. Additional Insured coverage shall be provided in the form of an insured endorsement (CG 20 10 11 85 or equivalent) to the Permittee's general liability insurance policy.

The Permittee shall be responsible for any deductible or self-insured retention contained within the insurance. Caltrans reserves the right to review Permittee's deductibles and may reject unreasonable deductible amounts. If the Permittee uses a self-insurance program or self-insured retention, the Permittee must provide Caltrans with the same protection from liability and defense of suits as would be afforded by first-dollar insurance. Execution of the Permit is the Permittee's acknowledgment the Permittee will be bound by all laws as if the Permittee was an insurer as defined under Insurance Code § 23 and the self-insurance program or self-insured retention shall operate as insurance as defined under Insurance Code § 22.