



# Chapter 1: Introduction

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## 1-1 Purpose and Scope

The *Temporary Structures Manual* has been issued by the Department of Transportation's Division of Engineering Services (DES), Structure Construction (SC). The intended purpose is to provide an educational resource and administrative support to the SC staff who are in responsible charge of temporary structures on State highway projects. Proper use of the *Temporary Structures Manual* requires a thorough understanding of the principles of civil engineering design and construction, as well as familiarity with the relevant specifications. The Caltrans *Falsework Manual* is referenced several times and is an indispensable resource when reviewing temporary structures with similar design requirements to falsework.

The scope of this manual is to provide a resource for temporary structures, not addressed in either the *Falsework Manual* or the *Trenching and Shoring Manual*, and is not intended to cover all possible scenarios. Engineering judgment will be required to determine the applicability of this manual to a specific temporary structure.

## 1-2 Statement of Structure Construction Policy

SC policy is to review and authorize temporary structure submittals that potentially create hazardous conditions. This is accomplished by a thorough review and authorization process of the temporary structure shop drawings and verifying that the details and requirements of the authorized shop drawings are properly implemented in the field.

## 1-3 Contract Specifications and References

Some of the key requirements for the review and authorization of temporary structures can be found in the following [Contract Specifications](#) and references:

1. Caltrans *Contract Specifications*:
  - a. Section 5, *Contract Components*:
    - i. Section 5-1.02, *Control of Work – Contract Components*: Item 1.6, *Supplemental Project Information*, includes permits and agreements negotiated by the State that are part of the contract and can include work and restrictions that can have a major impact on temporary structures.
  - b. Section 7, *Legal Relations and Responsibility to the Public*:
    - i. Notice of responsibility to the public including a section on Cal/OSHA requirements.
    - ii. Requirement to submit shop drawings when temporary facilities could be hazardous to the public.

- c. Section 12, *Temporary Traffic Control*:
  - i. Temporary access routes for pedestrians must be maintained, and the requirements are found in this section.
  - ii. Clearance requirements for traffic control devices.
  - iii. Pedestrian route requirements.
- d. Section 14, *Environmental Stewardship*:
  - i. Since the majority of bridges are either habitat for biological resources or are adjacent to such habitat, environmental stewardship is a significant consideration in the design and installation of temporary facilities.
- e. Section 16, *Temporary Facilities*:
  - i. The requirements for temporary facilities used to move pedestrians through the work site can be found here.
- f. Section 48, *Temporary Structures*:
  - i. The requirements for engineering calculations, shop drawings, and review.
- g. Section 60, *Existing Structures*:
  - i. This section addresses bridge removal, including protective covers.
- 2. Project special provisions:
  - a. The project special provisions will contain contract-specific requirements and restrictions above and beyond what is in the *Standard Specifications* and will frequently include requirements outlined in the project permits and agreements.
- 3. *Information Handout*:
  - a. The *Information Handout* contains the project-specific permits and agreements including railroad agreements, environmental permits, asbestos report, and lead report when applicable.

## 1-4 Contractual Relationships

The Contractor is responsible for designing and implementing the temporary structure shop drawings. The Structure Representative is responsible for reviewing and authorizing the shop drawings and verifying that the Contractor follows the authorized plan. The Contractor's engineer that signed and sealed the temporary structure shop drawings is the engineer in responsible charge of the work.

## 1-5 Cal/OSHA References

There are many specific Cal/OSHA regulations covering temporary structures and those references will not be covered in this section specifically. Rather, this section highlights some general areas of importance regulated by Cal/OSHA in relation to temporary structures. The specific requirements for each type of structure will be covered in the associated chapter in this manual. The primary requirements associated with temporary structures are:

1. Structure collapse
2. Falls from elevated work areas
3. Minimum loading requirements
4. Public safety
5. Heavy construction equipment and traffic.

## 1-6 Definitions

**As-Builts** – Historical record of a bridge’s design and modifications implemented during construction or maintenance.

**Authorized reviewer** – The structure representative or their delegated assistant in responsible charge of reviewing the temporary structure submittal.

**Cal/OSHA – California Department of Industrial Relations, Division of Occupational Safety and Health (DOSH)** – Cal/OSHA protects and improves the health and safety of working men and women in California.

**Contract documents** – The various items described in *Standard Specifications* Section 5-1.02, *Control of Work – Contract Components*, including the special provisions, project plans, standard specifications, standard plans, change orders, information handout, permits, licenses, agreements, and certifications that encompass the definition and scope of work as agreed to by Caltrans and the contractor.

**Construction Safety Orders (CSOs)** – California Code of Regulations, Title 8, Chapter 4, Subchapter 4 provides safety regulations for the construction industry.

**DES** – Caltrans Division of Engineering Services. This is the division of Caltrans responsible for the design and construction engineering/contract administration of bridges and structures within Caltrans right-of-way. This includes oversight of bridges constructed by other agencies within Caltrans right-of-way or by other agreement outside Caltrans right-of-way.

**Protective cover** – Shielding installed between bridge removal work and any resource, utility, or public area to be safeguarded or preserved.

**SC** – Structure Construction. This is the subdivision within Caltrans DES responsible for the administration of bridge (and other structures) construction contracts within Caltrans right-of-way or oversight thereof.

**Temporary bracing** – Short-term structural support, primarily to resist lateral forces. Bracing should be designed and constructed to resist actual horizontal forces and the minimum contractually specified horizontal forces.

**Temporary support** – Short-term structural support to an existing structure or structural element during construction activities.

**Traffic opening** – Provisions for the passage of traffic through temporary works, including minimum clearances, impact-resistant elements, and lighting.