



Shop Drawing Review of Temporary Structures

Revision and Approval

Revision	Date	Nature of Changes	Approved By
0	04-30-2021	Original Issue	Michael Francis

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Background

This process establishes Structure Construction (SC) roles, responsibilities, and procedures for the review and authorization or rejection of shop drawings and calculations for temporary structures.

SC staff perform an independent engineering analysis of contractor-submitted shop drawings for any temporary structure that requires the drawings to be signed by an engineer who is registered as a civil engineer in the State of California. The findings of the analysis are to be presented to the contractor in a *Temporary Structure Plan Analysis Report* that has been signed and sealed by the licensed engineer performing the review. This is in accordance with the *Streets and Highways Code*, [Section 137.6](#), and the *Business and Professions Code*, [Section 6735](#).

Additional unique requirements for the review and authorization of shop drawings are detailed in:

- [Contract Specifications](#), Section 5-1.23, *Control of Work – General – Submittals*
- *Falsework Manual*, [Chapter 2](#), *Review of Shop Drawings*.

Process Inputs

1. Contractor's shop drawing submittal for temporary structures, which includes, but is not limited to:
 - Falsework
 - Column Guying

- Trestles
- Trenching & Shoring
- Temporary Supports
- Decking
- Jacking superstructures

Procedure

1. All work associated with this process is charged as [Project Direct – Construction](#).
2. Before construction begins:
 - a. When temporary structure submittals are received, create, and maintain a record of chronological review of the submittal. Refer to the *Falsework Manual*, Section 2-9, *Chronological Record of Shop Drawing Review*.
 - b. Perform an initial review of the temporary structure submittal for completeness. Refer to the:
 - i. *Falsework Manual*, Section 2-4.01, *Initial Review*.
 - ii. Following applicable sections (including but not limited to) of the *Contract Specifications* that details what must be included in the submittal:
 1. Section 48-2.01C, *Temporary Structures – Falsework – General – Submittals*
 2. Section 48-3.01C, *Temporary Structures – Temporary Supports – General – Submittals*
 3. Section 48-4.01C, *Temporary Structures – Temporary Decking – General – Submittals*
 4. Section 48-5.01C, *Temporary Structures – Jacking Superstructure – General – Submittals*
 - c. When shop drawings for more than one unit of work (two or more bridges, for example) are received at the same time, perform reviews per the contractor's designated order or sequence. Refer to *Falsework Manual*, Section 2-2, *General Information*.
 - d. Perform engineering review of temporary structure submittal for compliance with applicable requirements and/or guidance, which includes, but is not limited to the:
 - i. Design requirements in the *Contract Specifications*, Section 48, *Temporary Structures*
 - ii. Guidance provided in the *Falsework Manual*
 - iii. Guidance provided in the [Trenching and Shoring Manual](#)

- iv. Local and state permitting agency requirements as stated in the Information Handout in the bid package
 - v. Railroad requirements as stated in the Information Handout
 - vi. Requirements of the *Contract Specifications*, Section 7-1.04, *Legal Relations and Responsibility to the Public – Public Safety*
 - vii. Cal-OSHA requirements.
- e. When the temporary structure does not comply with all requirements, reject the temporary structure submittal in accordance with *Falsework Manual*, Section 2-6.02, *Shop Drawing Rejection*. Additionally, resolve any non-compliant issues by discussing the issues with the contractor, contractor's engineer, Structure Representative, Bridge Construction Engineer, and/or SC Falsework Engineer. Document events in the Chronological Record log.
- f. When the temporary structure submittal is ready for authorization:
- i. If there is no railroad involvement, proceed to Step 2.f.iii.
 - ii. If there is railroad involvement:
 - 1. Before authorizing the temporary structure submittal, send the submittal and your calculations to the SC Falsework Engineer. The SC Falsework Engineer sends the submittals to the railroad company for approval. Once approved by the railroad, the SC Falsework Engineer sends the approval to the Structure Representative. Refer to *Falsework Manual*, Section 2-6.01B, *Authorization When Railroad Company is Involved*.
 - iii. Authorize the temporary structure submittal as follows:
 - 1. Stamp and sign the temporary structure shop drawings with the Caltrans authorization stamp. Refer to *Falsework Manual*, Section 2-6.01, *Shop Drawing Authorization*.
 - 2. When the Contractor submits temporary structure shop drawings, which are required to be stamped and signed by a registered engineer; complete, stamp, and sign the *Temporary Structure Analysis Report* in accordance with the requirements of the California Professional Engineers Act. Refer to *Falsework Manual*, Section 2-4.03, *Engineering Analysis*.
 - iv. Complete the transmittal letter. Refer to *Falsework Manual*, Section 2-10.03, *Sample Transmittal Letter*.
 - v. Send the Transmittal Letter, including the stamped and signed *Temporary Structure Analysis Report* and stamped authorized shop drawings, to the Contractor.

- vi. Immediately after authorizing the submittal, send the complete submittal package to the [SC HQ Office Associates](#); it includes the:
 1. Transmittal Letter
 2. Stamped and signed Temporary Analysis Report
 3. Stamped authorized shop drawings
 4. Contractor's calculations
 5. SC reviewer's calculations
 6. Railroad Authorization when railroad is involved.
 - vii. SC HQ Falsework Engineer files the complete submittal package in VISION.
3. During construction:
 - a. Review and authorize revisions to temporary structure submittals using the procedure described above.
 4. Following construction:
 - a. File all correspondence and daily reports in the appropriate category in the project records as specified in the *Construction Manual*, [Section 5-1.02](#), *Organization of Project Documents*.

Process Outputs

1. Authorized temporary structure shop drawings
2. Temporary Structure Analysis Report
3. Transmittal Letter
4. Chronological Record of Temporary Structure Review

Attachments

None