

CHAPTER 21 - Exceptions to Design Standards

Table of Contents

CHAPTER 21 - Exceptions to Design Standards.....	21-3
SECTION 1 - Exceptions to Mandatory Design Standards.....	21-3
ARTICLE 1 - General.....	21-3
Responsibility.....	21-3
Purpose.....	21-3
ARTICLE 2 - Processing.....	21-3
Early Start.....	21-3
Identification of Nonstandard Features.....	21-3
Consultation Requirements.....	21-4
Requests for Design Exceptions.....	21-4
Integration with Project Development Process.....	21-4
General / Miscellaneous Requirements.....	21-5
Approvals.....	21-5
Distribution and Filing.....	21-6
SECTION 2 - Exceptions to Vertical Clearance on 42 000 km Priority Network.....	21-7
General.....	21-7
Process.....	21-7
FIGURE 1A - California Routes on the 42 000 km Priority Network.....	21-8
FIGURE 1B - California Routes on the 42 000 km Priority Network.....	21-9
SECTION 3 - Exceptions to Advisory Design Standards.....	21-10
Authority.....	21-10
Documentation.....	21-10
Filing.....	21-10

CHAPTER 21 - Exceptions to Design Standards

SECTION 1 - Exceptions to Mandatory Design Standards

ARTICLE 1 - General

Responsibility

One of Division of Design (DOD)'s most important ongoing responsibilities is to establish and enforce the consistent application of highway design standards (as shown in the *Highway Design Manual*) to ensure optimal safety for the traveling public and those who work to construct, operate, and maintain the State's highways.

Purpose

The purpose of the design exception process is to create a written record that documents the engineering decisions leading to the approval of each exception from a design standard. It is essential that adequate records are prepared and preserved to document such decisions and approvals.

ARTICLE 2 - Processing

Early Start

Approval of exceptions from Mandatory Design Standards must be sought as early as possible in the project development process, particularly where the project concept and/or cost estimate depend on a potential design exception.

Identification of Nonstandard Features

The "responsible-charge" engineer must identify all nonstandard design features (both proposed and existing) and should not rely solely on reviews by functional units or oversight engineers to make these findings.

Consultation Requirements

Potential design exceptions must be discussed with the Design Coordinator or Design Reviewer as soon as the need for an exception is identified.

Depending on the level of FHWA oversight, potential design exceptions may need to be discussed with the appropriate FHWA Liaison Engineer. (See "FHWA Approval" below.)

Requests for Design Exceptions

Once the Design Coordinator determines that there may be sufficient justification to approve a design exception, a formal request can be made. The following steps must be taken:

1. Prepare the request in the form of a draft Fact Sheet, in conformance with the outline in Appendix BB.
2. Submit the request to the Design Reviewer or Design Coordinator for review. Incomplete drafts will normally not be accepted for review.
3. Address all comments to the draft to the satisfaction of the individuals making the comments.
4. Circulate the completed Fact Sheet for approval signatures. (See "Approvals" below.)

Requests to perpetuate existing nonstandard design features within a project's work limits will be made in accordance with the above procedures — except when the Design Coordinator determines that a different form of documentation is more appropriate.

Integration with Project Development Process

All anticipated design exception approvals must be obtained prior to district approval of the Project Study Report (PSR) or any other project initiation document. The text of the project initiation report must include a brief description of the nonstandard features, as well as a reference to all approved Fact Sheets and their approval dates by DOD and FHWA (when applicable). See "Approvals" below.

If the need for a design exception is identified after approval of the project's initiation document, the documentation process just described must be followed and completed prior to approval of the next project development report. The need for a design exception must be referenced in the associated engineering document (Draft Project Report, Project Report, etc.).

During the construction phase of a project, Fact Sheets must be prepared by Design staff to document any nonstandard features proposed in a Contract Change Order. The District Design staff is responsible for processing the proposed design exception.

General / Miscellaneous Requirements

- When design exceptions are proposed by encroachment permit applicants, the exception will be processed by the Caltrans functional unit responsible for preparation of the Project Engineering Evaluation Report (PEER). If a PEER is not required, the exception will be processed by the functional unit concurring with the nonstandard feature.
- A single Fact Sheet should be prepared for projects that contain multiple design exceptions.
- Design exceptions on local facilities for projects coordinated by the Local Assistance Unit must be prepared by the involved local agency.
- Nonstandard features that are identified subsequent to the approval of an initial Fact Sheet require the preparation of an independent, "stand alone" Fact Sheet. This can be accomplished by writing a supplemental Fact Sheet if the original Fact Sheet is attached.
- Fact Sheets should not be attached to any project initiation or engineering reports. They should be summarized and referenced in appropriate reports.

Approvals

Signature, Coversheet Format

The Fact Sheet outline shown in [Appendix BB](#) provides a recommended format for the signature/cover sheet. The format may be varied to suit each district's organization; however, each Fact Sheet must comply with the requirements of Chapter 2, Section 9, of this manual.

Caltrans Approvals

The responsibility for approval of all exceptions to Mandatory Design Standards on State Highway and local facility (within State right of way) projects rests with the DOD Division Chief and has been delegated to the Design Coordinator.

The HQ Office of Local Assistance has delegated the responsibility for approval of design exceptions for exempt local Federal-aid projects, not on the State highway system, to the public works director (or the city or county engineer if the public works director is not registered).

FHWA Approval

Formal FHWA approval is required for design exceptions to the 13 controlling criteria (See Index 108.3 of the *Highway Design Manual*.) when the route, project type, and cost meet either of the following criteria:

- Interstate System Completion (IC) projects, at any cost
- New construction /reconstruction projects on the Interstate System, at construction costs greater than \$1 million

FHWA design exception approval is also required for any project that does not provide or maintain a minimum vertical clearance of 4.9 m over the 42 000 km Priority Network. (See Section 2.)

Requests for FHWA approval should be made by letter, addressed to the FHWA Division Administrator, and signed by a Deputy District Director or the District Director. Requests must be accompanied by a copy of the DOD-approved Fact Sheet.

Distribution and Filing

Following the Design Coordinator's approval, two copies of the Fact Sheet must be transmitted to DOD Division Chief, Attention: Design Exception. Provide copies of all correspondence between the district and FHWA pertaining to the request for design exception approval.

The signed original Fact Sheet and FHWA approval letter must be filed in the Project History File. A backup copy should be filed in a separate permanent file or in the district's central file.

SECTION 2 - Exceptions to Vertical Clearance on 42 000 km Priority Network

General

In coordination with the Department of Defense (DOD), the FHWA has identified a 42 000 km subset of the Interstate System that would meet the most urgent national defense needs. It is known as the 42 000 km Priority Network.

FHWA has made a commitment to the DOD to maintain a 4.9 m minimum vertical clearance where it already exists and to upgrade clearances less than 4.9 m as rapidly as is practical. Any project on the Priority Network (including Resurfacing, Restoration, & Rehabilitation [RRR] projects) will be closely scrutinized to ensure compliance with this vertical clearance standard; exceptions to this standard will be difficult to obtain, and will be subject to additional federal review.

See Figures 1A and 1B for a table and map for California routes on the 42 000 km Priority Network.

Process

Exceptions for vertical clearances of less than 4.9 m on the 42 000 km Priority Network must be processed separately and in a different format than the Mandatory Design Standards Fact Sheet. See [Appendix BB](#) for the appropriate format.

The requests will receive internal reviews within Caltrans and the FHWA Division Office. The FHWA Region Office must obtain concurrence from FHWA Headquarters in Washington D.C., who will coordinate all requests of this nature with the Military Traffic Management Command (MTMC) prior to approval. Due to this additional and lengthy step, potential requests for design exception must be identified as early as possible and discussed with the Design Coordinator.

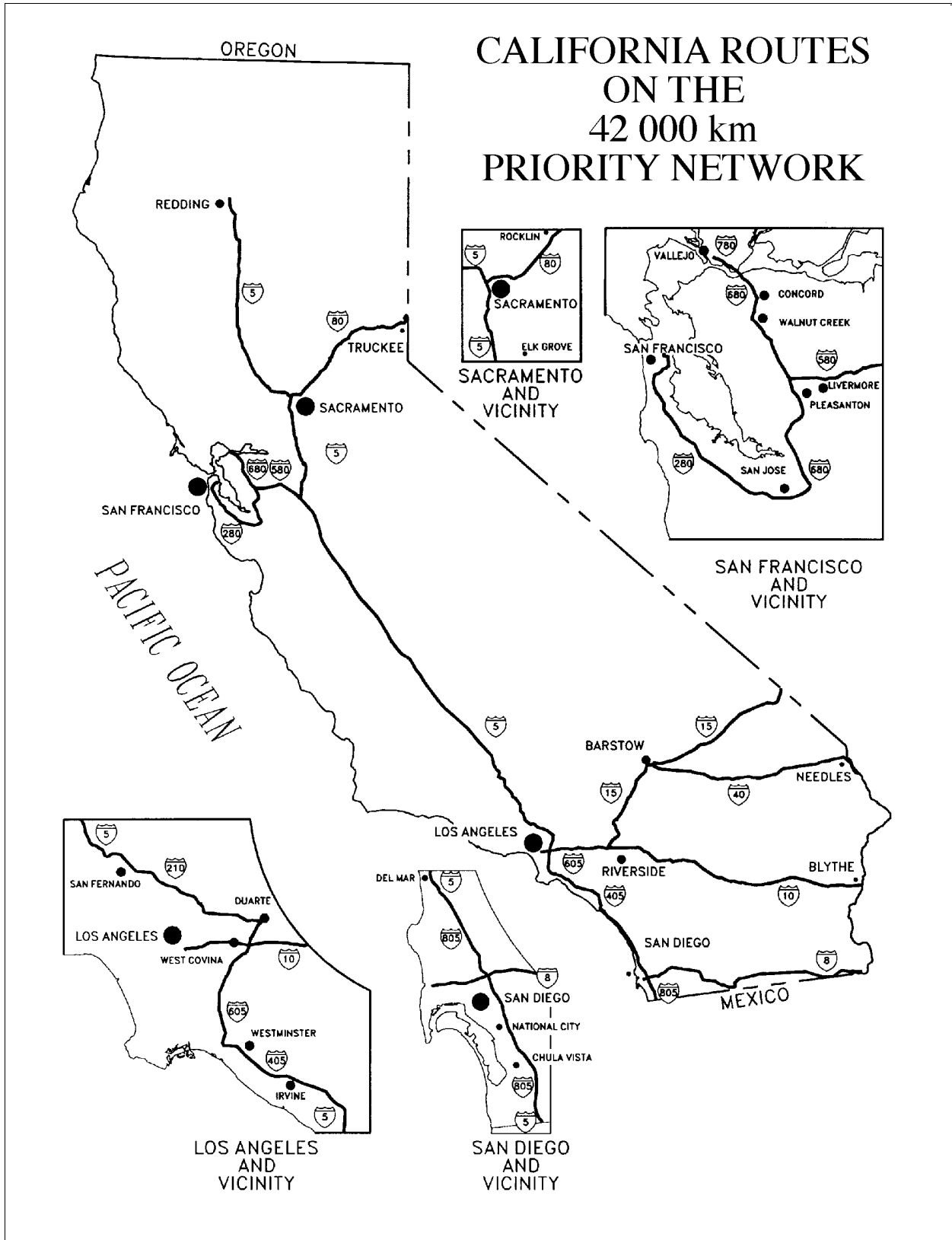
Wherever possible, vertical clearances should continue to be designed to comply with the Caltrans standards, as described in the *Highway Design Manual*. Vertical clearances that are below those specified in the *Highway Design Manual*, but at least 4.9 m, can be approved by the Design Coordinator and, when necessary, the FHWA Division Office. Only requests for vertical clearances below 4.9 m will require approval from the MTMC.

It is the responsibility of the Project Engineer (PE) to submit the Design Exception form to the FHWA Division Office after approval has been obtained from the Design Coordinator. The transmittal should note whether or not a Fact Sheet for additional nonstandard design features on the proposed project is anticipated. Once the final approval is obtained from the DOD, the PE must send two copies of the approved Design Exception to the DOD Division Chief, Attention: Design Exception. The original must be filed in the project files. A backup copy should be filed in a separate permanent file or in the district's central file.

FIGURE 1A - California Routes on the 42 000 km Priority Network

ROUTE	FROM	TO
I-5	U.S. border	I-805 just N. of U.S. border
I-5	I-805 N. of San Diego	I-405 near El Toro
I-5	I-210 N. of Los Angeles	Redding
I-8	Junction at I-5 near San Diego	Arizona
I-10	Junction at I-5 near Los Angeles	Arizona
I-15	Junction at I-10 near San Bernardino	Nevada
I-40	Junction at I-15 near Barstow	Arizona
I-80	Junction at I-5 in Sacramento	Nevada
I-210	I-5 N. of Los Angeles	I-605
I-280	Junction at I-680 in San Jose	At or near the south city limits of San Francisco — to provide access to Hunter's Point
I-405	I-5 near El Toro	Palo Verde Avenue just N. of I-605
I-580	Junction at I-680	Junction at I-5
I-605	I-405 near Seal Beach	I-210
I-680	Junction at I-280 in San Jose	Junction at I-780 near Benicia
I-780	Junction at I-680 near Benicia	Junction at I-80 in Vallejo
I-805	I-5 just N. of U.S. Border	I-5 N. of San Diego

FIGURE 1B - California Routes on the 42 000 km Priority Network



SECTION 3 - Exceptions to Advisory Design Standards

Authority

Approval of exceptions to Advisory Design Standards has been delegated to the District Directors.

Documentation

Each district has formalized its own procedures for documenting exceptions to Advisory Design Standards. The district-approved Advisory Design Standards Exception generally covers the same type of project data and justification as that required for the Mandatory Design Standards Fact Sheet. All exceptions to Advisory Design Standards should be discussed with the Design Reviewer.

Filing

The signed original Advisory Design Standards Exception must be filed in the Project History File. A backup copy should be filed in a separate permanent file or in the district's central file.